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DECEMBER 25, 1926

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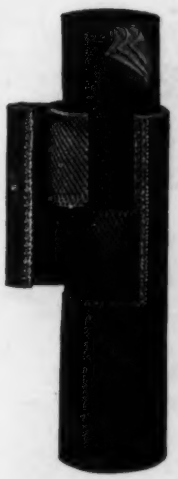

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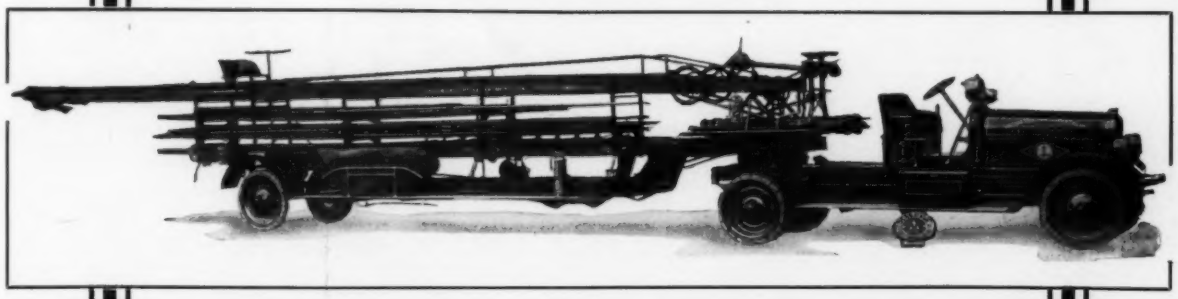

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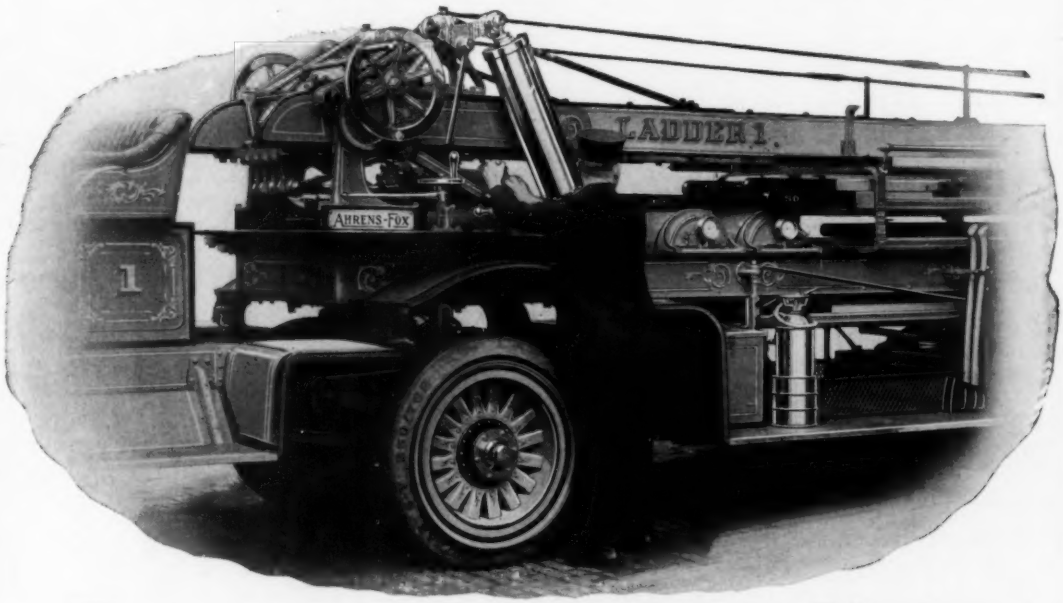

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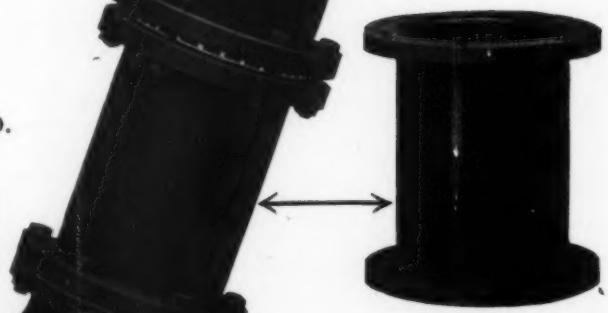

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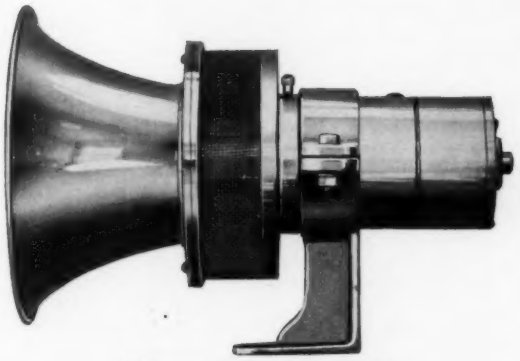

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The Journal of the Fire Protection Profession

VOLUME LXXIX DECEMBER 25, 1926 NUMBER 24

Architect Specializes in Fire Station Designs

Distinctive Plans Put Out by Boston Architect—Some Handsome Headquarters Buildings—Utility as Well as Beauty Studied

By HARRY BELKNAP, Boston, Mass.

THIS is an age of specialization, and in the architectural profession this is particularly true. One will consider churches as his especial forte, another office structures, while a third may devote his attention to residence designing. The architect to whose work this article is devoted has chosen the fire station as his line of development and has made some very excellent accomplishments in his chosen field:

George Ernest Robinson, Architect, Boston.

George Ernest Robinson, Boston architect with offices in the Chamber of Commerce Building on Federal Street, has during the past year made a special study of the kind of architecture adaptable to fire station struction and as a result of this specialization has produced some remarkably attractive designs.

Prior to becoming interested in bettering the living conditions of American firemen Mr. Robinson, who is of the Massachusetts Institute of Technology, drew plans for many notable schools, churches, theatres, and post office structures.

His first fire department work was the designing of a fire station for the town of Billerica, Mass., Next came the plans for the new Freeman Street fire-house in Revere, Mass. Then he drew the plans for the magnificent central fire station in Arlington, Mass., (Fig. 2), which was built at a cost of $150,000 and completed last spring. This beautiful building with its attractive lines and classic tower was fully described in the April 10, 1926, issue of FIRE ENGINEERING.

Three Central Fire Stations

There are at the present writing three central fire stations from Robinson designs in process of construction. The largest of these, for which ground has just been broken at Plainfield, N. J., (Fig. 1), will, it is believed, constitute the finest and most elaborate structure of its kind ever built. It will be of fire resistive construction and will cost $250,000. There will be seven double front doors for the passage of apparatus and every possible convenience for the firemen. Of the other two central stations, one is building in Amesbury, Mass., and the other in Stoughton, Mass.

Neglect of Firemen's Accommodations

"The firemen of our cities and towns have been neglected for years," said Mr. Robinson to the writer. "Thousands of dollars have been spent in every community for new schools but the firemen have continued to be quartered in old buildings of an antiquated type with no modern conveniences and with no provision for the installation of motor apparatus. Even today the old wooden floors still remain in many stations where motor apparatus has been placed and there are in existence fire houses that are little better than old stables.

"There has been no adequate provision made for the comforts of the men and much of the discontent that one sometimes hears of among the rank and file of the uniformed fire forces has been due to improper living conditions. Poor ventilation and lack of recreational facilities have made life irksome for the firemen who under proper arrangement of conveniences and harmonious, pleasing surroundings would live in a state of contentment and piece of mind.

Fig. 1. Central Fire Headquarters for Plainfield, N. J.
This building will cost $250,000 and will be one of the most elaborate structures of the kind in the world. It will have seven double front doors for the passage of apparatus.

"Light, airy dormitories with outside windows and large living rooms with open fireplaces add much to the attractiveness of a central fire station. The elimination of all posts that used to obstruct the apparatus floor is another improvement that is of vital importance. There

is no reason why the modern fire-house should not be a thing of beauty as well as utility."

New Central Station for Plainfield, N. J.

The new central station for Plainfield, N. J., will be of brick, steel, and concrete construction. It will be three stories in height in the central portion and two stories high on the sides. No wood will be used in the building which will be 130 feet, 2 inches on the front and 90 feet long on the sides. The seven front doors for the apparatus will swing outward, contrary to the usual practice in the New England states. The basement will contain a large storage space, coal bins, and two boilers for heating purposes. The apparatus floor will be of concrete, 91 feet by 73 feet in area. The location of the building is at the corner of Central Avenue and West Third Street in Plainfield. The front is on the avenue with entrance and stairway on the West Fourth Street side. The chief's car will occupy the front section of the right hand wing and the deputy chief's car the front of the left hand wing. In the rear of the apparatus floor is a machine shop, 54 feet, 8 inches long by 20 feet wide. There is a large rear door entrance to the machine ship.

The first floor also contains a watch room in the front, a supply room, toilet, storage room, and emergency room with first aid hospital supplies. The apparatus floor is entirely free and unobstructed by pillars. It has numerous floor drains so that apparatus may be washed and cleaned in the house during cold weather.

The second floor, with a wide corridor in the centre, contains inner and outer fire department executive officers, office of the chief of department, three officers' rooms, shower baths, toilets, and ten separate dormitories with a loggia built into the rear. In the right hand wing is located the fire alarm office and storage battery room and in the left hand wing are placed the dining room, kitchen, and wash room.

On the third floor there is a large recreation and smoking room in the front with a reading room in the rear right section, lounging room in rear centre, and unassigned room in rear left. There are two roof gardens, one over each two-story section. Nine brass sliding poles are provided. There is a dado of salt glazed tile on the apparatus floor.

Stoughton and Amesbury Structures

The new central station in Stoughton will be a two-story brick structure with two one-story wings. In a basement beneath the left hand wing will be installed the heating plant and whistle tank room. In the left hand wing will be the watch room, chief's office, fire alarm office and battery room. In the right hand wing there will be a machine shop and supply room. The apparatus floor will be 62 ft. by 54 ft. and will have three doors. The second floor will contain a large lounging room in front, a meeting room, kitchen, lockers, shower baths, toilets, billiard room, room for the chief, room for the deputy chief, and five rooms for firemen. Brick and steel girder construction will be used.

The Amesbury central station will be of brick with a one-story wing containing the fire alarm office, battery room, and room for the board of engineers. This section will be of fireproof construction. The apparatus floor will have three double doors. On the second floor there will be a large "Common Room," 54 ft. by 18 ft. in area, a kitchen, lockers, wash room, room for the chief, room for the deputy chief, and seven rooms for firemen. This building will be of mill construction with an insulated roof to keep out heat and cold and will cost $55,000.

Mr. Robinson also designed a bungalow engine house for Arlington and this station was built on the top of the hill at Arlington Heights opposite the large standpipe of the water works system.

Gloucester's New Central Station

A fire station was built in Scituate, Mass., last summer from plans prepared by Mr. Robinson. The handsome new central station in Gloucester, Mass., which has just been dedicated, was designed by him and built by John J. Bowes & Son, under the personal supervision of the architect.

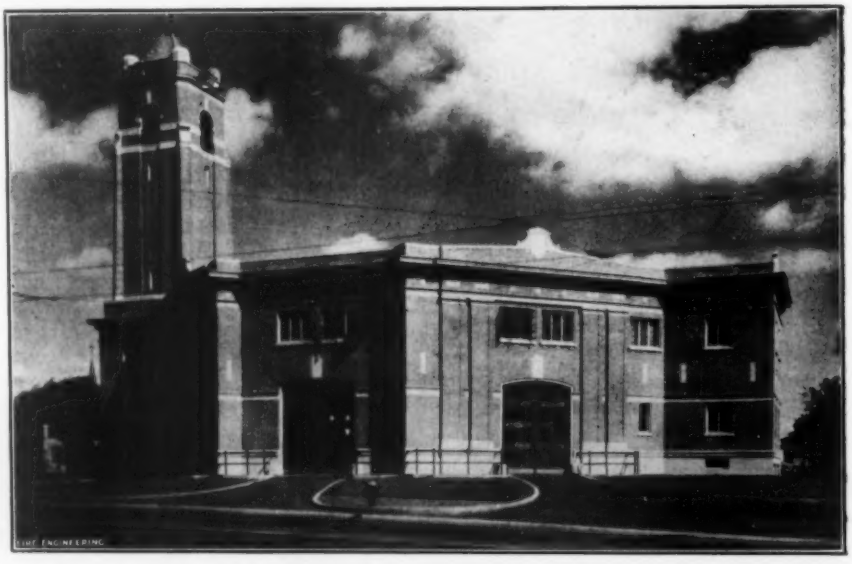


Fig. 2. Central Fire Station of Arlington, Mass., a Structure with Classic Lines, Recently Completed at a Cost of $150,000.

Sun Causes Many Fires

The sun has been responsible for a number of strange fires according to a member of the Underwriters' Laboratories.

In an Illinois town, a fire broke out in the display window of a jewelry store. There was a round ball of glass with a picture under it. The rays of the sun were concentrated on the paper and started the fire. Another case on record is where the merchant of an umbrella store desired to show the public the fine texture of his umbrellas. He had an open umbrella hung in his show window, with a magnifying glass so mounted, that the passerby could notice the fine weave of the fabric. The glass acted as a "burning" glass by concentrating the heat of the sun rays on one spot, and a fire started.

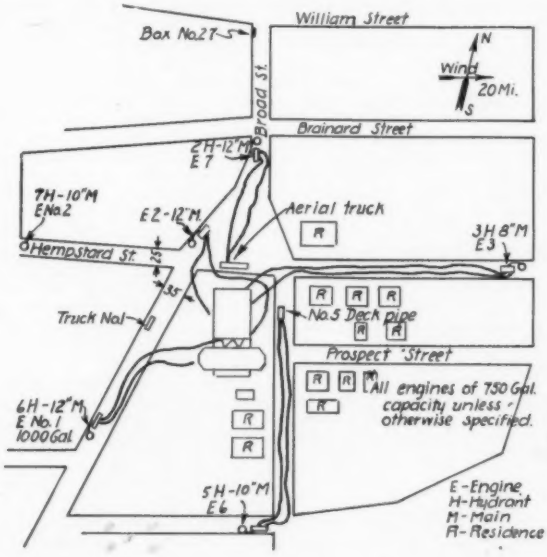
Blemishes in the glass of show windows have often been blamed for the cause of many strange fires. The air pockets and other imperfections in the plate glass windows aid in concentrating the heat of the light rays and in the mitigation of fire.

Delayed Alarm Gives Church Fire Big Start

Department Quickly Mustered at It, and Does Good Work—A Tribute to a Part-Paid Organization

THE fire described in this article of the series on administration is indeed an interesting one. Faced with almost every possible handicap a department made up of paid and volunteer men put up a commendable fight.

The usual method of describing the fire in one issue and following it with a suggested method of handling in a subsequent issue will be departed from in this case. The handling of the fire cannot be criticised nor is there a suggested method which



would have produced better results. For that reason the fire and any suggestions will be incorporated in this one article.

The city in which the fire occurred is located on the eastern seacoast, having a population of approximately 30,000.

The department consists of the following apparatus:

1 one thousand triple combination pumper; 4-750 gal. triple combination pumpers; 1 combination chemical and hose car with deck gun; 1 combination chemical and hose car in reserve; one 75-foot aerial ladder truck with ladder pipe; and one city service truck.

The personnel of the department includes a chief, a deputy chief, an electrician, chief's driver, and twenty-three men, in two platoons; practically all of these men are drivers of trucks.

The volunteer force, which involves the eight companies of the department, consists of 700 men. There were, however, only between 100 and 125 present at the fire.

Description of Building

The building in which the fire occurred is well shown in the sketches herewith and in the photographs of the fire. The building was a church building situated about one quarter of a mile from headquarters on top of a hill about 75 to 100 feet above sea level. It was built of native granite and the work on the main building was finished in 1868. Since that time there have been several additions and within a year more than $35,000 was expended on a parish house and annex. Due to the great age of the main building the interior wood work was highly inflammable with the result that the fire when it started, spread with intense heat and astonishing rapidity.

The sketches show the location of the main church building with the parish house in the rear.

The Fire

A still alarm was transmitted at 2:40 p. m., a box alarm at 2:43; second alarm at 2:48; and general alarm at 2:50 p. m.

It was on a Friday, December 3, 1926, that a woman drove up to fire headquarters and knocked on the door which was answered by one of the drivers. This woman asked the driver if he would send a piece of apparatus to the church as there was a small fire under the floor of the building.

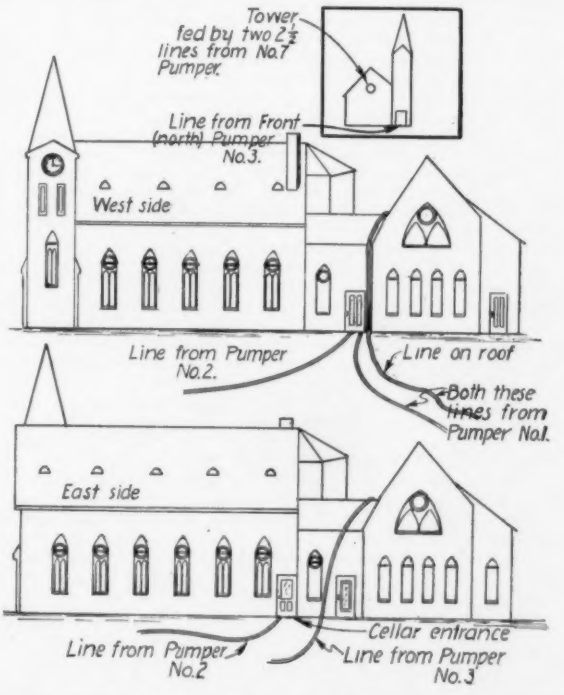
The driver dispatched the nearest engine company, a 750 gal. triple combination and a city service truck, also the acting chief. When the engine company arrived it immediately sent in the box alarm from a box which was within two blocks of the fire, bringing out two additional 750-gallon pumps and a 75 feet aerial and with ladder pipe. This also brought out the acting deputy chief (who took the place of the chief, the latter being laid up).

The acting chief of the department arrived in his car about the same time as the apparatus. After glancing at the building he ordered his driver to send in a second alarm, bringing out the 1,000 triple combination car and 1 combination hose and chemical car with deck pipe. When the driver returned he was ordered back to send in a general alarm bringing out a 750 gallon triple combination.

The first engine company upon arrival was ordered into the side door of the building where the fire was located—in the organ room and around organ. There were many concealed places leading directly into the cock-loft over the organ. This part of the church was a mass of flames and great clouds of smoke were pouring out from under the cornices, showing that the cock-loft was involved to a considerable extent.

An attempt to get into the organ room only resulted in two men being carried out, overcome by smoke. An attempt to enter the front door proved useless as the place was filled with dense smoke, so dense that the men would not survive in it. The truck company was ordered to open up side windows, but as they were of heavy wire glass and fifteen feet above ground, and in view of the fact that hot slate began falling about this time, the men were driven away without being able to make an opening.

It is evident that this fire had a very big start before being discovered and in view of the fact that the janitor and minister


Tower fed by two 2½ lines from No.1 Pumper.
Line from Front (north) Pumper No.3.
West side
Line from Pumper No.2.
Line on roof
Both these lines from Pumper No.1.
East side
Cellar entrance
Line from Pumper No.2
Line from Pumper No.3

fought the fire for possibly a half-hour before one of the women, who were in the chapel of the church at the time, was sent to headquarters to give an alarm, it is not surprising that the blaze gained such headway upon the department's arrival.

Although a telephone was situated at the foot of the stairs where the women were holding a meeting, none of them thought to use it in transmitting an alarm.

Fire broke through the roof ten minutes after the first box alarm.

The first line was laid to the back door and took a position there. As the first and second alarm companies arrived they were ordered to hook up pump and line and these were placed as shown in the sketch.

The water tower was placed at the only opening that led into the cock-loft, which was a small window in front of the building. They endeavored to check the fire in the cock-loft.

The deck gun was placed on the leeward side of the building to protect the dwellings on this side of the building exposed to the intense heat. Other small lines with 1 and 1¼-inch tips were placed to cover exposures and openings from main church into chapel which, with the exception of a section of the roof being burnt, was saved. There were two large doors, one on each side, and opening 6 x 10 feet covered with inscription board leading into chapel. As the fire started in this end of the main building it was very intense here and only at great risk did the firemen prevent it from communicating to the chapel.

Slate shingles began falling from the roof early in the fire and which were red hot, preventing the firemen from going near the building. The height of the cornice of the building is about 40 feet and the roof had a very slanting pitch. It is about 35 feet from cornice to peak, making a total of 75 feet from the ground to the ridge of the roof.

On account of four pumps taking water off the same main at one time, one pump was shifted as shown in the sketch (Number 2). Immediately upon shifting this pump a better supply was secured by all machines.

As it was, the fire destroyed the rear end of the main building, including the organ, organ room, balconies in rear, about 50 feet of floor space in front of organ and the roof of the main building.

There was about 900 feet of cotton rubber lined 2½-inch hose used. Through some misunderstanding an almost continuous stream of traffic was allowed to run over hose; automobiles, busses, trucks, and at one time a five-ton loaded moving van ran over four lines of hose. Seven lengths of hose burst and four butts were smashed.

Editor's Comment

About the only suggestion that can made in connection with the fighting of this fire is the establishment of police lines to prohibit apparatus or vehicles from running over hose lines. There is no excuse for police departments permitting trucks to cross hose lines at a fire. This shows a deplorable lack of cooperation by the police department in this city.

As to the handling of the fire note the following: Reports indicate that the fire was fought by the minister and janitor for approximately one-half hour, and then when an alarm was sent it was sent by a woman going to fire headquarters. Thus the fire had a chance to find its way up into the concealed spaces through the organ, which, in itself is a highly combustible piece of equipment, and promptly reached the cock-loft before the self-appointed brigade thought of sending for the city department.

Once fire reaches the cock-loft of a large building of this type, and particularly of its age where every timber is like tinder, there is little the department can do but keep the fire from extending to surrounding property.

Note also that the fire department was severely handicapped by several unavoidable conditions: the great progress of the fire upon arrival, the wired glass windows, the falling slate shingles, and the inaccessibility of portions of the building.

It may be said in favor of the fire department that the officer in charge lost no time in getting the full strength of the department at hand. Note that there was very little delay between alarms once the officer arrived at the fire.

Note further that each engine was used to full capacity, two lines being laid from each.

Also note the good judgment displayed in the placement of both the aerial truck and the deck gun.

The use of the aerial ladder stream into the cock-loft no doubt was largely responsible for the saving of that part of the main building which was not destroyed by fire.

The placement of the deck gun on the leeward side of the fire was the most effective way of protecting the dwellings on that side of the building. In other words, right from the start the officer in command covered his exposures. Not only did he cover them on the outside of the building, but he also covered them on the inside by getting the lines in operation in the parish house. The result of this operation may be noticed by the fact that the parish house was saved, except for small damage to the roof.

The shifting of one of the engines to a different hydrant speaks for itself: the pressure on the remaining hydrant on the main being boosted by the removal of one of the engines to another main.

Finally, observe that the officer in command employed the very best of methods in handling this fire; namely, first, he covered exposures; second, he confined the fire; and third he put it out.

What more can be said?

18-STORY BANK GARAGE SUGGESTS SOLUTION OF PARKING PROBLEM

Proposed Car Storage and Office Building as Annex to Detroit Bank—Several Such Structures Would Relieve Streets

As a possible relief from the multitude of parked cars in city streets and a solution of the problem of interference with the fire apparatus which such cars constitute the plan proposed by the First National Bank of Detroit suggests great possibilities. This bank has acquired an adjoining site upon which it will erect an eighteen-story garage building directly connected with the bank for the use of its customers and tenants of its office building. The garage will be ready in about a year.

To make space for this structure two historic buildings, the Normandie and Hermitage Hotels, on Congress and Bates Streets will be torn down. The garage will have space for 700 cars. Customers and tenants of the bank may drive into the garage, leave their cars in the hands of attendants and pass into the bank over a bridge structure which will connect the two buildings at each floor over the intervening alley. They may return to their cars and drive away without having had to cross a congested street on foot, worrying about any parking regulation, or taking up the heart-breaking hunt for a parking place.

Preferential storage rates will be given to office tenants of the bank building. Non-tenant customers of the First National Bank and the Central Savings Bank will be able to use the garage while transacting business in the bank, a small charge being made if a car remains over a specified time limit. The garage building will have several floors devoted to office space.

The garage will be of the ramp type with auxiliary elevator equipment. It will follow in architectural design the lines of the present banking structure that was built on the site of the old Ponchartrain Hotel. The cost of the garage, it is said, will easily run into seven figures.

New England Fire Chiefs' Convention

The fifth annual convention of the New England Association of Fire Chiefs, it has been decided, is to be held on June 21 to 23, 1927, the headquarters to be established at the Congress Hotel, Portland, Me. Chief John W. O'Hearn, of Watertown, Mass., is secretary of the association. All reservations can be obtained by addressing George F. Cobb, traffic manager, 774 Albany Street, Boston, Mass.

Boosts "The Fire Brigade" in Program

President Albert Herring and the other officers of the Egyptian Fire Fighters' Association of Southern Illinois, are certainly "on the job" in boosting the International Association of Fire Chiefs' moving picture, "The Fire Brigade," and have set a fine example of cooperation for others to follow.

In a 4-page folder announcing the route and special car arrangements for the attendance at the 39th annual convention of the Illinois Firemen's Association, which takes place at Quincy, Ill., on January 11 to 13, 1927, the entire two inside pages are left blank and upon them is stamped in big purple letters, "THE FIRE BRIGADE." three times on each page.

The rest of the folder announces that:

"Special cars leave Carbondale 8:35 a. m.; arrive St. Louis, Mo., 11:20 a. m.; leave St. Louis, Mo., on C. B. & Q. R. R., fast train at 2 p. m.; arrive at Quincy, 6:02 p. m.

"Quincy has everything that will contribute to make a very pleasant convention. It is a city where you will receive that famous 'Northern Hospitality.'

"The Quincy Fire Department, Fire Chief Marriott and the city officials all extend to you a cordial welcome to attend the 39th annual convention of the Firemen of Illinois."

Scranton, Pa., to Have New Fire Station—Public Safety Director James Arigoni of Scranton, Pa., announced that Hose Company 5 will soon have a new fire house. The building will be of the bungalow pattern.

Chief Bryant of Ft. Myers, Fla., Injured—While responding to a fire, Chief Corley B. Bryant of Ft. Myers, Fla., was thrown from the car and two of his ribs were broken. His car skidded and turned completely over, throwing him and a fireman companion on the road. Chief Bryant was unconscious when picked up, and he was immediately rushed to the hospital.

Modern Fire Alarm Signalling

Engine House Panels and Equipment—Installation and Operation

By E. W. KEIRSTEAD, E. E.

THIS is the sixteenth of a series of articles on the care, installation and repair of various phases of fire alarm work. The author has had practical experience in this field, and he will answer questions on this subject that are submitted to him by the readers, free of charge. The only condition is that a stamped envelope must be enclosed for reply.

Years ago, an engine house set consisted of simply a gong and indicator which were invariably mounted on the wall of the apparatus room; the timing of the alarm system at that time was generally slow in order to operate whistles, bells and tappers to give a signal to call men to an alarm of fire. The different departments are now being placed on a standard by which the department is strengthened by the addition of more men and the release of a great number of call men. It is possible then in a good number of cases to increase the speed of the alarm system a good deal as the slow acting apparatus is removed. It is then necessary to replace the indicators with a faster type of recording apparatus. The register (this machine already described) will faithfully perform on any speed used in fire alarm practice. Then there are the fast time tappers and the slow time gongs

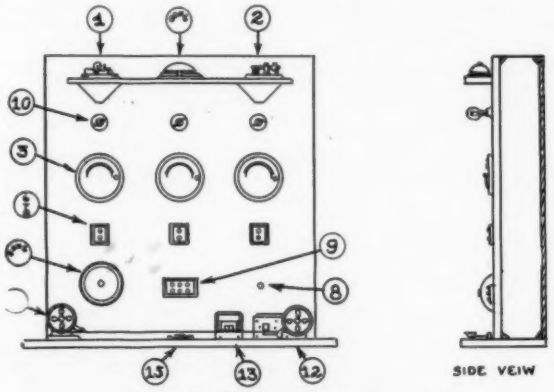


Fig. 45. Engine House Panel
The telephones are not shown.

of the manual system of operation, the relays and cut out switches, telephone, telegraph key, traffic controllers, etc. The appearance of the fire station would be increased 100 per cent if this apparatus was assembled on a panel or desk in a presentable way.

In Figure No. 45 a descriptive sketch is given of what is an engine house panel. On the panel shown is mounted traffic controllers, gongs, register, time stamp, relays, telephone, manual transmitter and cut out switches. It makes an attractive looking control panel and will improve the appearance of a station as well. In addition to appearance another reason for the use of a panel or a desk is to enable the watchman to have all the necessary apparatus within his reach at all times.

The cost of the panel is small and there is, as a rule, a carpenter or cabinet maker among the personnel of the department who can do the construction work. The finish should match the woodwork of the station, and it should be well rubbed before applying the last coat of varnish if a wooden panel is used. It is possible to make the panel up in slate, marble or ebony asbestos wood all of which will make a neat looking layout.

The best results in mounting are obtained when a pocket is made in the wall and the panel hung on hinges as a door allowing a repair man access to the back of the board. It will also be easier to pull wires where the pocket has been made. In the panel shown in Figure No. 45 there are two shelves—the one near the top holds the telegraph sounder if used, and relays or tapper gong. The one at the bottom serves to hold the register, time stamp and take up reel. It is necessary to make the bottom shelve wide and strong enough to hold the apparatus.

Building the Panel

Before starting to build the panel it is well to get all the equipment together that is to be mounted on the panel and then decide upon the necessary size. Next it will be well to get a sheet of paper and draw an outline of the panel for size, (do this in small scale) and arrange on the floor all the apparatus you expect to use in about its relative position. Note on a separate sheet of paper the sizes of each piece of apparatus. Place the apparatus in block relief in its position on the drawing. After all the apparatus has been put on the panel on paper it is then possible to spot the holes on the drawing and they should be taken to size and marked on the drawing where they belong.

The panel is cut to size and planed up square; the holes will have to be drilled and the apparatus fitted a good many times before the fit will be as desired, and particular care should be taken not to chip out the side of a hole as this will ruin the board. After the holes are all bored and the fits made the panel can be sandpapered several times until smooth. All the cracks and holes in the grain should be filled with a filler before the undercoat is put on. When the undercoat is applied let it dry for a day or two and then rub it down after which another coat is applied. When it is thoroughly dry apply two coats of varnish making sure to rub down well after each coat; when this is dry apply a coat of varnish and let dry. Do not place the panel in a spot where it will collect dust while drying as the dust will dry into the varnish and result in an ugly job.

Figure No. 46 shows a panel all laid out ready to be drilled. From now on one must be very careful with the panel so as to not injure the finish, and in placing the instrument on the surface, it will be well to have an assistant or two. First mount the apparatus that is to be on the face of the panel and secure it well with the proper size screws or bolts. After everything is fast on the surface, mount the apparatus on the shelves and secure them. All wiring on the back of the panel should be done now and wires which tap on to the alarm circuits, telephone lines, traffic units, etc., should be left long enough to reach a junction box or a terminating point below the floor.

The hinges should be mounted before the panel is finished and when all wiring is completed the panel can be placed on the hinges and the leads hooked up through a junction box or terminal of some kind. After all the wires are hooked up it will

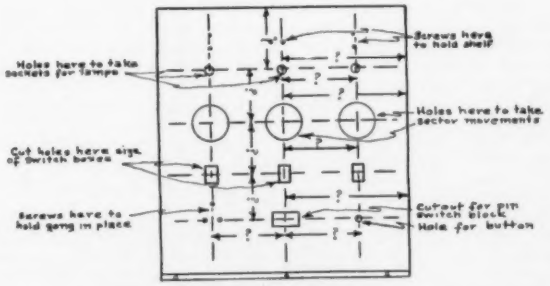

Screws here to hold shelf
Holes here to take sockets for lamps
Holes here to take sector movements
Cut holes here size of switch below
Screws here to hold gong in place
Cutout for slate switch block
Hole for button

Fig. 46. Engine House Panel Layout—the Dimensions are to Suit the Individual Design

be well to thoroughly test the whole installation and any mistakes should be changed as soon as is possible to avoid confusion. Before placing the panel in position it may be wise to give your men good coaching on its use and the proper care of it. The men as a rule will prefer a central type panel as it means less work for them and also simplifies the routine they have to go through. The man on watch should also be obliged to keep the panel clean and in its best operating condition at all times.

If a transmitter is used with the panel there will have to be brought to the engine house a box loop in order to operate the repeater at headquarters, it is impossible to operate the repeater from the alarm circuit as it is simply a closed metallic circuit being broken by the operation of the train work of the repeater, set in motion by the operation of a box circuit. The central type office will have no use for a transmitter at this point as all alarms are given from Fire Alarm headquarters. The register should be preferably operated by a local battery operated by a main line relay. The register should then be of the open circuit type. If no relay is used do not use an open circuit register as you will get an extra blow at the end of the signal. The switch

should be designed so that the force of gravity will tend to open it rather than close the circuit. Make sure that all telegraph keys are supplied with guards so that the accidental force of one's hand will not tend to operate the signal. You should also provide a good light over the panel so as to enable the men to see how to operate the panel. Special care should be used to keep the register and take up reel wound up at all times. The control desk is made up very much similar to the panel—the only difference being that the wiring will have to enter through the floor instead of the back. The desk will perhaps be favored by many as it allows a place to keep the record book and supplies, etc.

Operation of the Panel

The operation of the panel depends upon the amount and the nature of the apparatus you decide to place upon it from time to time. At the first stroke of the tapper the watchman can observe the recording tape and at the same time count the alarm; if it is in his district as he will know he can raise his hand and press the house gong which is located on the panel. The men are now on their apparatus and the watchman has started the traffic sirens going to clear the way for their approach. At other times it is perhaps necessary to get headquarters in a hurry and if you cannot reach them by telephone, the telegraph key is handy to transmit the message. The telephone and sounder are also within reach of the operator and a step one way or the other will allow him to operate the entire system as installed in the house.

In Figure No. 45 the various units are shown and numbered for identification.

1 Main line relay, used to operate the gongs and registers.
2 Main line telegraph sounder, used when desired.
3 Traffic control unit.
4 Traffic control unit. As many used as is needed.
5 Traffic control unit. Three shown here for descriptive purposes.
6 Switch to control apparatus room lights.
7 Switch to control dormitory lights.
8 Switch to control house bells. Button used if desired.
9 Combination pin switch.
10 Indicating lights for traffic controllers.
11 House telephone.
12 Register open circuit type.
13 Time stamp if desired.
14 Take up reel.
15 Telegraph key for signalling headquarters.
16 Telephone for auxiliary to headquarters.

All fuses are in back of panel as well as the wiring to each unit. The arrangement of the apparatus on the panel can be made to suit the needs of the department and the wiring can be made as desired.

The traffic control units, if of the sector type, can be set into the cabinet flush with the face of the cabinet and in that manner will make a well designed unit. The regular finish of the control unit is bright red, and if the unit is too conspicuous the face of the unit may be taken off, so that the paint could be removed from the face, and the face silver or nickel plated. This finish will give a wonderful appearance to the panel and add greatly to the appearance of the apparatus room itself. The regular finish of the register, time stamp and take up reel as well as the relay and telegraph sounder and key is polished brass. When the whole panel is assembled and placed into service it makes a compact unit of pleasing appearance.

The city of Lakewood, Ohio, has three panels such as the ones described in this article—one in each engine house. These panels have been finished in the same color as the rest of the woodwork in the station and all parts are either nickel plated or polished brass.

As some small departments will have no use for this type of panel and will still use the large gong and indicator I will, for their benefit, give in this article a few pointers on the adjustments and care of these instruments.

Gongs and Indicators

There are several types of fire alarm gongs now manufactured including the main line or open circuit type, the main line closed circuit type and the electo mechanical type. The first two named gongs serve the best in use on a system where large numbered boxes are used, or where a great number of alarms are received. These gongs are placed in the main line the same as a box or register and perform their functions by the attraction or release of magnetism. In the open circuit type the energizing of the magnet attracts the armature on which is attached the bell hammer which causes it to strike. In the closed circuit type the armature is always held up to the magnets and the release of the magnetism allows the armature to fall away and strike the bell.

The electric mechanical gong mechanism is very simple and the raising of the cover plate will disclose the interior for your inspection. This gong functions differently than the main line gongs in that the spring and gears do the striking of the blow and the armature is used simply to release the striking parts. There is practically only one adjustment needed with these gongs and that is the adjustment of the armature tension spring which should be adjusted to pull at 60 to 65 milli-amperes. When making this adjustment make it under actual conditions to be sure of the correct operation of the gong in service. There is one type of gong made which has to be mounted with the binding post in an upright position, for the hammer drops by gravity; if the gong is mounted in any other position it will fail to operate. If gongs are to be installed in dusty or dirty places it will be well to have a case built around it and only the surface of the gong exposed. This is necessary to protect the working parts from gumming up and failing to operate.

Gongs are built in several different sizes of from 4 to 16 inches and made up either with or without the indicator. Either a metal or wooden case may be obtained upon specification, the wood case being the more expensive of the two.

Indicators

Indicators are used in systems where it is desired to have a visual indication of the alarm box number received. It cannot be worked on reel time systems as the operation of the indicator is not as fast as that of the register. These indicators are as a rule made up in a wooden case with glass pigeon hole windows back of which the number appears. They are hooked in on the main line or on the alarm circuit depending upon the operation of the system, and a simple series connection is made. There is a standard type terminal block provided at the top of the indicator with a pin supplied for cutting the instrument out of the circuit.

The principle under which the indicator operates is as follows: The first blow trips the straddle bug through which the push rod is connected, at the same time pushing the rod up which in turn releases the dog holding the indicating wheel, thereby allowing it to move down one number. The straddle bug is timed in its movement by a weight type governor. If the blows are in rapid succession the rod will be pushed up in number one position as many times as the circuit is opened. The straddle bug is moving all the time, and as the circuit closes for the space between the numbers; the bug is by that time in number two position. Now when the next opening comes the push rod will come up in number two position carrying up as many figures as the line is opened. The action is the same in all four positions. After the first round has stopped the straddle bug will be in a far position or in number four position, and the succeeding rounds will push the rod up but will fail to turn the number wheel, as it has passed too far over, and the signal number will remain until reset.

The indicator should be kept wound at all times as it depends upon spring power for its action. It should also be reset after each alarm to avoid any misunderstanding.

If the time of the present system is changed the timing of the indicator will also have to be changed to the corresponding time. For the benefit of those who do not know how to retime the indicator, the following directions are given: Assume that we want to time the indicator, for one second time. Adjust the thumb nuts on the governor so that it takes just exactly six and one-quarter seconds for the straddle bug to travel from its position at rest to the position against the stop pin shown in the drawing. If the time is different than one second, say two seconds the time for the straddle bug to reach its stop position will be just twelve and one half seconds or if one half second time it will take three and one eighth seconds. The indicator will not, as a rule, give a proper signal on one half second time, and is, therefore, not recommended.

The armature is adjusted the same as that of the gongs and the test should be made under actual conditions.

Special care should be taken to see that all contact points on the relays and telegraph sounder and keys are kept clean and bright at all times. The adjustments should be checked occasionally, and the magnets and cores kept free of all dirt and grime.

The spring tension should be kept normal on all apparatus using a spring on the armature of their parts to insure operation. The take up reel, time stamp and register should be kept wound up and oiled to keep it in the best possible working condition.

The gongs and indicators should be kept wound and clean the same as the rest as the apparatus, and special care should be taken to see that the indicator is reset after each alarm. If it is not reset a jumbled signal will be the result. The signal of the indicator should be checked with that of the gongs before the apparatus leaves its quarters to prevent a mistaken alarm.

The next article will take up auxiliary telephone systems and will outline its use and installation in connection with offices now in service. It will describe the necessary changes to be made to place this apparatus in service, and its care and repair.

New Rules of the New York Fire Department

This Fourth Installment Covers General Rules of the Department—What Every Member Shall and Shall Not Do

FOLLOWING is the fourth installment of the "Rules and Regulations of the Uniformed Force of the Fire Department of the City of New York," just issued by that department, and which are to be published serially in their entirety in FIRE ENGINEERING. *This book has been compiled and edited by Captain John J. McCarthy, of H. & L. No. 43, detailed in charge of the Division of Public Assembly at Fire Headquarters, who worked under the personal supervision of Chief John Kenlon. This installment includes sections covering the general rules of the Department.*

SEC. 112. Obedience to all laws, rules, regulations, orders or commands shall be prompt, implicit and unqualified.

SEC. 113. EVERY MEMBER SHALL

1. Devote his whole time to the work of the Department and shall not be employed in, or give personal attention to, any other business.
2. Promptly notify his commanding officer of all matters coming to his attention affecting the interest and welfare of the Department.
3. Promptly notify his commanding officers, the commanding officer of the district in which he has lived, and the commanding officer of the district to which he is removing, of any change of residence, filling out, in the latter case, the card provided for that purpose.
4. Promptly notify his commanding officer of any inability to report for duty at the time required.
5. Notify his commanding officer before applying to Medical Officers for a sick leave of absence.
6. At all times be courteous and respectful.
7. Immediately report to his commanding officer any accident, sickness or injury to himself or others, no matter how trivial. Complete details shall be given when making the report.
8. When answering telephone calls, give the unit number (Division, Battalion, etc.), his rank and surname. The member calling shall then promptly identify himself in the same manner.
9. Promptly perform every duty required by law, these rules, or any Department order, instruction or command.
10. Promptly report the loss of any badge, device, book or equipment.
11. Be held responsible for the safekeeping and care of all Department property under his control.
12. When on the off-tour, promptly return to quarters for duty when notified that the signal for the recall of all members has been transmitted.
13. Report all accidents involving damage to motor vehicles, to his commanding officer.
14. Promptly notify police officers when he finds hydrants being used unlawfully, particularly during summer.
15. When on sick leave of absence, obey all orders of Medical Officers as to his treatment.
16. When engaged in the performance of house duties in or about company quarters, provide himself with safety equipment (window belt, life belt, etc.), and exercise proper precautionary measures to avoid injury. He shall be held responsible for any accident occurring through failure to observe this rule.

SEC. 114. MEMBERS SHALL NOT

1. Indulge in intoxicating liquor, or be under its influence while on duty or in uniform.
2. Indulge in the use of drugs or narcotics, except with the written permission of the Chief Medical Officer.
3. Have, or allow to be brought into any Department building, any intoxicants or ingredients used in the preparation thereof.
4. Disobey any order or command of a superior in rank.
5. Give expression to indecent, profane, uncivil or boisterous language.
6. Be a party to any immoral or indecent conduct.
7. Violate any criminal law.
8. Commit any act for which they may be arrested or imprisoned, whether on or off duty, in uniform or otherwise.
9. Commit any act which in any way tends to bring discredit to the uniform or to the Department.
10. Neglect or shirk any duty.
11. Absent themselves from quarters, fire, or any other duty without permission of the officer in charge.
12. Gamble in quarters or in Department buildings.
13. Neglect or refuse to pay debts for necessaries within thirty days from date incurred.
14. Incur liabilities which they are unable or unwilling to discharge.
15. Sell, or assign, their salaries, or obtain the signature of any member to endorse any note, assignment of salary, or evidence of debt, without the written permission of the Fire Commissioner.
16. Lend, sell, or give away any public property, except that officers in charge of companies may, when requested, lend portable lights to police officers and portable spraying equipment to persons in authority in the Street Cleaning Department. In such cases a detailed receipt shall be taken, and the return of the property sought after use.
17. Alter or change any Department building, appliance or fixture, without written permission of the Fire Commissioner.
18. Accept, or use, materials or appliances of any kind not furnished by the Department.
19. Recommend to civilians the name of any person, firm, corporation, association or business concern interested in the sale of fire appliances, or in remedying violations of law.
20. Accept any reward, gift or donation, as a member of the uniformed force, without the written permission of the Fire Commissioner.
21. Solicit any compensation, reward or consideration for services performed in the line of duty, without the written permission of the Fire Commissioner.
22. Give presents to members of the uniformed force without receiving permission from the Fire Commissioner. A fire helmet, or service badge, is the only gift that will be sanctioned.
23. Contribute any moneys to any political cause, nor become a delegate to any political or partisan convention.
24. Furnish persons not connected with the Department with any information relative to its business, except as may be authorized by the Chief of Department. This does not prohibit explaining departmental routine to visitors.
25. Engage, or take part, in any scheme or enterprise intended or likely to induce or influence any person to purchase tickets for gatherings or entertainments of any kind, without permission from the Fire Commissioner.
26. Use Department telephones except on Department business.
27. Allow Department telephones to be used by any one not a member of the uniformed force, except members of the Bureau of Fire Prevention, the Fire Alarm Telegraph Bureau, The Division of Apparatus, Fire Marshals, and chauffeurs in the Municipal Taxicab Service, after identifying themselves to the officer in command.
28. Contract for, or cause to be installed in any department building, any telephone instrument, without written permission of the Fire Commissioner.
29. Appear, at any time, in a borrowed uniform.
30. When in uniform, visit or enter any place of public assembly unless detailed thereto.
31. When in uniform, operate or ride upon any private automobile.
32. Permit any person not a member or honorary member of the Department to ride upon any Department vehicle.
33. When in uniform, occupy any seat to the exclusion of other passengers or wilfully violate the rules of public transportation companies.
34. Smoke, while in uniform, upon any street or thoroughfare, or upon any vehicle; nor upon the apparatus floor of quarters, whether or not in uniform, except that smoking shall be permitted in company sitting room when situated at the rear of the apparatus floor.

(*Continued on page* 1325)

Unusual Decision Given in Arson Case

The cancellation of the fire insurance policy was part of the punishment metered out to the ones responsible for an arson case near Plymouth, N. C.

The husband of the woman in whose name the title to the property rested, was apprehended with an accomplice shortly after the fire, and he was charged with arson. The case was tried before Judge Henry A. Grady and the husband was sentenced to five years in the state prison while the accomplice was sentenced to a two year's term. In addition the judge ordered that the $5,750 fire insurance policy on the buildings be cancelled and the wife was prevented from collecting the rewards of her husband's crime.

In commenting on the crime, Judge Grady said, "The jury found that the property was burned in order that his wife might get the insurance. The wife, if not implicated in the burning, could recover the full amount of the policy; and, in case she should sue, it is more than likely that she would recover. I felt that such recovery would be an outrage under the circumstances, so, as a part of the punishment, I required her husband to have the policy surrendered and cancelled. The property was all burned to ashes and the loss complete."

SANTA CLAUS ASSISTED BY ALL CLOQUET, MINN., FIREMEN

Toys Collected as Admission Charge to Theatre—Men Use Spare Moments in Repairing Broken Toys for Needy Children

By HAROLD R. BERGGREN

ENCOURAGED by the results of last year, the members of the fire department at Cloquet, Minn., have decided to continue the work that they inaugurated. Last year the men collected broken toys and mended them so that one hundred children were made happy.

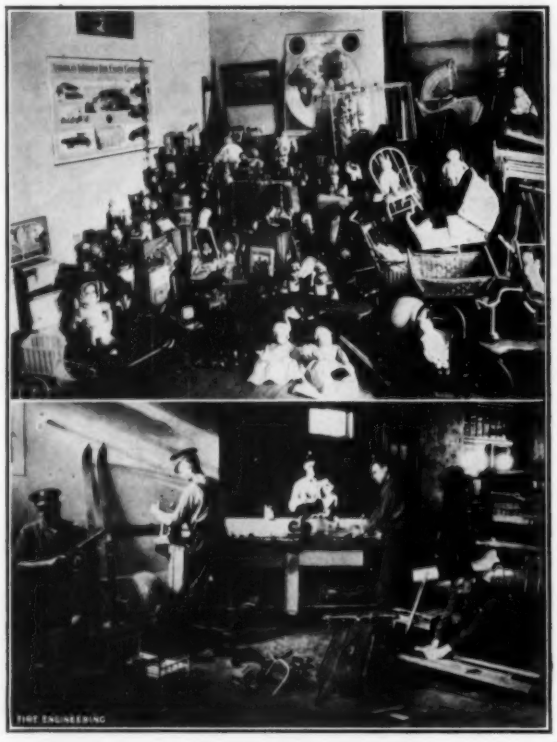
Chief Lester H. Clark

So successful was the work of last year that the men decided this year, to make Christmas bigger and better than ever, with the result that no needy children in the city or in the county adjoining the city will knowingly be missed on Christmas Eve.

First of all, the old or broken toys were needed. This was not difficult, however, as W. M. Miller, manager of the Western Theatres, Inc., kindly offered his help in the matter and put on a "Broken Toy" matinee at his Leb Theatre in East Cloquet. This was responded to by more than a thousand children, who brought one or more old or broken toys as their price of admission. These toys were taken to the Fire Hall where the work of salvaging them was begun. Patience, a hammer, a screw driver and some red and green paint are the tools necessary in re-building the articles that will bring so much happiness to some red-blooded American boy or girl, who otherwise might be forgotten by Santa Claus in his rush of visits. Some toys merely needed a coat of paint to make them look like new. Some could be repaired, and some had to be completely **re-built.** In many cases the pieces of several broken toys were used to make one good toy. The firemen, however, were equal to the task before them and more than two-thirds of the toys received were rebuilt and decorated to look like new.

In distributing the toys, the names and ages of children who will have a scant Christmas, were obtained by the local charitable organizations, and the Y. M. C. A. These will be investigated by the chief, Lester H. Clark, and his men and by members of the Carl Anderson Post of the American Legion. The toys will then be sorted according to the ages of the children, and on Christmas Eve a party will be given for these children at the Y. M. C. A. Members of the American Legion will see that the children are transported to and from the party. The Y. M. C. A. will have a Christmas tree and the toys will be distributed to these children by Santa Claus.

There will be about two hundred children at the Christmas party, and all will receive gifts, made possible by some extra work and a little thought. After all, will not those concerned, feel better for the Christmas cheer and happiness they have brought to some youngster who is so often denied the little pleasures that mean so much to them?



The Reincarnation of the Christmas Spirit

Upper—Piles of toys that wait distribution to the needy children on Christmas Eve. Lower—The firemen at work re-building and decorating the discarded toys so that some child might be made happy.

Comr. and Mrs. J. J. Dorman Honored

A dinner and theatre party party in honor of Fire Commissioner and Mrs. John J. Dorman of New York was given recently at the Ritz Carlton Hotel, by Robert H. Mainzer, Honorary Deputy Chief of the New York Fire Department. The occasion was a reunion of former Fire Commissioners to meet the New Commissioner, Mr. Dorman. The favors were miniature electrically lighted fire alarm signal boxes on posts numbered "666"—the fire alarm code signal for the Fire Department Ambulance.

After the dinner, Chief Mainzer took his guests to the theatre. Others present were Commissioner and Mrs. Nicholas J. Hayes, Commissioner and Mrs. Rhinelander Waldo, Commissioner Joseph Johnson and his daughter, Mrs. Sarah Johnson Perry, Commissioner and Mrs. Robert Adamson, Commissioner and Mrs. M. F. Loughman, Commissioner and Mrs. Manfred L. Neumoegen of Mahopac, N. Y., Miss Grace E. Burton, Chief and Mrs. John Kenlon, Dr. and Mrs. Harry M. Archer and Mr. and Mrs. William Jerome Daly.

Four New Captains Appointed in Newark, N. J.—Comm. Brennan of Newark, N. J., promoted four firemen to captains. At the examination for this honor, Harry J. Sommers headed the list with an average of 95.08. He is thirty-nine years old and entered the service in 1917. The others appointed are Joseph Gabriel, Leon Kaiser and Charles F. Cullen.

COURSE OF INSTRUCTION IN FIRE PROTECTION

AS GIVEN AT THE UNIVERSITY OF ILLINOIS

FIRST-AID EXTINGUISHERS

By R. O. MATSON,
Underwriters' Laboratories, Chicago, Ill.

THIS twenty-fifth installment of the University of Illinois Course in Fire Prevention commences an article on the purposes, functions, care and maintenance of first-aid fire extinguishers by one who has made an especial study of his subject and is well qualified to write upon it:

It might appear, at first thought, on account of the great number of first-aid extinguishers in the field and because of the general acceptance of these appliances as a valuable form of fire protection, that this subject does not involve any special problems and can therefore be dismissed with a few general remarks. It is this atitude which results in the failure of first-aid fire extinguishers to afford the maximum fire protection possible. Too often do purchasers and owners of first-aid extinguishers assume that their responsibility ends when they have installed these appliances in their buildings and too often do persons who might be called upon to use an extinguisher in the event of fire have little or no knowledge of its use and operation. It is for this reason that I wish to direct your particular attention to two most important phases of this subject this afternoon: the care and maintenance and the use and operation of first-aid extinguishers.

Must Be Well Maintained to Be Serviceable

It might be well, therefore, to point out at this time that the amount of fire protection which any first-aid extinguisher is capable of rendering is directly dependent upon the care and maintenance given it and upon the ability of the user to operate it efficiently in the event of fire. An extinguisher not maintained in a serviceable condition might, under some circumstances, be worse than no extinguisher at all. Such a device is objectionable because of the false sense of security given, and because of the possible delay in effectively combatting a fire. Assume, if you please, a foam extinguisher being carried to the scene of a fire and when inverted, it fails to discharge the extinguishing liquid. The user probably spends several precious minutes in attempting to bring the machine into action, but without results. What is the trouble? Strainer, hose, and nozzle clogged as a result of the failure to thoroughly wash the extinguisher before recharging the last time. It is absolutely necessary to comply with the manufacturer's directions regarding recharging and to make periodic inspections to insure that these appliances are maintained in an operable condition.

Operator Must Understand Its Use

That which has been said in regard to maintenance is equally true of the proper use of first-aid extinguishers. To obtain the maximum fire protection from an appliance it is important that the operator be one who is acquainted with its use and operation. A perfectly good extinguisher in the hands of one not familiar with its use might result in the spread of fire rather than in its control. Assuming another hypothetical case, imagine a fire in a dip tank, that is, a vat containing a flammable liquid such as paint or varnish. A two and one-half gallon soda-acid extinguisher is carried to the fire, inverted and the stream directed into the center of the burning liquid. What are the results? The flammable liquid is splashed around, resulting in the spread of fire to the outside of the tank, and the extinguishing liquid sinks to the bottom of the tank without any retarding effect upon the fire. All this merely because a perfectly good extinguisher for certain types of fires was discharged into the center of a tank of burning flammable liquid. It is not enough to know that an extinguisher is operated by inverting or by working a hand pump; it is equally important to know the suitability of an extinguisher for use on various types of fires and the most effective manner of attacking such fires.

Various Types of Fires

Because of the suitability of first-aid extinguishers for use on only certain kinds of fires, it is necessary to give some consideration to the ways in which fires differ from one another and to the most effective means of controlling each. For the purpose of classifying extinguishers as to their suitability for use on various kinds of fires, incipient fires are divided into three groups known as Class A, B, and C fires.

Fires Needing Cooling Effect of Water

Class A fires are defined as those in which the cooling or quenching effect of water is of prime importance in extinguishing them. The ordinary wood, clothing and paper fires are examples of this class. Such fires are extinguished by directing the stream of extinguishing liquid at the base of the flames. The soda-acid, foam, calcium chloride, hand pump, etc., in fact any appliance employing water as the extinguishing agent, are types of extinguishers suitable for use on Class A fires and are therefore termed Class A extinguishers.

Fires Which Must Be Blanketed or Smothered

Class B fires are those in which the blanketing or smothering effect of the extinguishing agent is of greatest importance in controlling them. Combustion is a chemical reaction in which oxygen combines with the burning material. Generally, the oxygen entering into this reaction is supplied by the air. Obviously such fires can be smothered by excluding the air from the burning material. Group B fires are those in which this means of fire control is employed, and examples of this group are fires in small quantities of flammable liquids. Such fires should be attacked by directing the stream of the extinguishing agent, not into the burning material, but rather against the side of the container near the oil surface from which point it can be spread over the surface of the burning liquid, forming a blanket and excluding the air. Foam and carbon tetrachloride extinguishers are those employing this principle of fire extinguishment and are known as Class B extinguishers.

Incipient Fires in Electrical Equipment

Class C fires are incipent fires in electrical equipment, where the non-conducting property of the extinguishing material is of prime importance. Carbon tetrachloride, because of its non-conducting property and also because it is not injurious to electrical equipment, is especially suitable as a fire extinguishing agent for this type of a fire. Appliances which employ a material suitable for use on fires of this group are known as Class C extinguishers.

In order to provide some means of indicating the relative effectiveness of each type of extinguisher in fire control, a system has been devised having as its basis a unit of first-aid fire protection, and the value of any one type of extinguisher as compared with another type suitable for the same class fire, as indicated by the number of appliances of each type which constitute one unit.

The Soda Acid Extinguisher

The two and one-half gallon soda-acid extinguisher consists essentially of a cylindrical tank of approximately three gallons capacity, with hose and nozzle attached, and an acid bottle supported in a metal cage within the tank. The tank contains two and one-half gallons of water in which is dissolved one and one-half pounds of sodium bicarbonate ($NaHC0_3$), and the acid bottle approximately four (liquid) ounces of commercial sulphuric acid ($H2S04$). Soda-acid extinguishers are of two types: The loose stopple type contains an open necked bottle and is operated by inverting; the break bottle type contains a sealed acid bottle and is operated by shattering the acid bottle by means of a plunger extending through the extinguisher cover. Upon operation the acid flows from the acid bottle and enters into a chemical reaction with soda, and as a result carbon dioxide gas ($C02$) is formed under pressure. It is this gas which causes the water to be discharged through the hose and nozzle.

The idea is not uncommon that this type of extinguisher, sometime known as a chemical extinguisher, contains some mysterious chemical which when thrown on a fire immediately snaps out the blaze. The extinguishing agent upon which soda-acid extinguishers are dependent for their fire control in the vast majority of cases is nothing more than two and one-half gallons of water. While it is true that the carbon dioxide formed is a non-flammable gas, it ordinarily plays no material part as an extinguishing agent in this extinguisher for the

reason that it is practically all dissipated in the air before the stream reaches the burning material. There are cases, however, such as chimney fires, where the carbon dioxide has been effective in fire control.

The two and one-half gallon soda-acid extinguisher is suitable for use only on Class A fires and should not be employed on flammable liquid fires and fires in electrical equipment. This type extinguisher bears a classification of A-1, one device constituting one unit of first-aid protection on Class A fires. Soda-acid extinguishers are not charged when received from the manufacturer, and therefore must be charged in accordance with the manufacturer's directions before installing. It might seem unnecessary to mention that extinguishers of this type should be charged when received, but cases are known where this very thing has been neglected.

(To be continued)

New York May Prohibit Wooden Shingles

The committee on buildings of the Board of Aldermen of New York city will report in two weeks on an ordinance to prohibit the use of the wooden shingle within the city limits of New York city. The ordinance has the support of Fire Underwriters, the fire commissioner, Chief Kenlon, Aldermanic President McKee, Borough President Connolly and others including civic organizations.

In its present form, the proposed ordinance makes it mandatory for all wooden shingle roofs to be replaced by January 1, 1937. One of the aldermen pointed out the importance of the ordinance and that more time than two weeks should be allowed for consideration since the ordinance involved the expenditure of several thousands of dollars for roof replacement. One of the aldermen challenged the statements of Chief Kenlon and Fire Commissioner J. J. Dorman that the wooden shingles constituted one of the serious fire hazards in the metropolitan area. He said that Brooklyn had been using the wooden shingle for years and it had not suffered from a conflagration.

Dog Trained in Fire Department Evolutions

A type of a dog known as a "mutt" and adopted by the firemen of Nutley, N. J., has been trained in various fire department evolutions. He has been named "Smoke" and he is here shown climbing a ladder. Another stunt of this dog is to run through a burning building to arouse the occupants by his barking.

"Eastern Regulars" Plan Their Trip

In accordance with his usual aggressiveness and foresight, Frederic E. Bensen of the Eureka Fire Hose Company has outlined the trip that the "Eastern Regulars" will take on their way to and from the convention of the International Association of Fire Chiefs that will be held in Portland, Oregon, in 1927. The following circular is being mailed to the chiefs in the territory of the "Eastern Regulars":

BULLETIN NO. 1

I. A. F. C. Convention, Portland, Oregon

When: August, we hope.
Time: Twenty-three days.
Cost: From $431.17 to $514.57, according to reservations. This includes all expenses from start to finish with the exception of tips at various hotels where we stop.
We will see: "The Switzerland of America," Buffalo, Chicago, St. Paul, The Great Prairies of the Dakotas, Yellowstone Park via the New Gallatin Gateway, The Mighty Cascades, Spokane. The Famous Columbia River, Portland, Seattle, Vancouver, Frazer River Canyons, The Lofty Canadian Rockies, Mount Robson, Jasper National Park, Winnipeg, Duluth, the Great Lakes to Buffalo, Delaware Water Gap, Northern New Jersey and then HOME.
Quota: Eighty-five guests will be the maximum, thus insuring everyone the "Eastern Regular" standard of service.
Reservations: Compartments and Drawing Rooms are the choice on a trip of this kind and are limited. Reservations will be accepted now without obligation and subject to cancellation up to April 15th, 1927, after which date a deposit will be required.

We will inaugurate our new train *"THE FIRE CHIEF"* on this trip, and it will consist of the latest Pullman equipment—One Club Car with Barber Shop, One Standard Ten Section and One Standard Twelve Section, open Pullmans, Two Seven Compartment—Two Drawing Room Cars, One Two Drawing Room—Three Compartment Observation Car with Bath, Dining Car serving all meals. Open top observation car through Cascades and Canadian Rockies.

Plan Your Vacation for 1927 Now and remember "TRAVEL THE BEST WAY, THE EASTERN REGULAR WAY."

Fraternally yours,
FREDERIC E. BENSEN.

P.S. Prices given at this time are for budget purposes, and subject to slight changes.

New York City After Ticket Sellers

Several arrests have been made in a determined drive by Fire Commissioner John J. Dorman to stamp out ticket selling for alleged benefits for firemen in New York city.

The ticket selling habit in New York has become a public nuisance, so much in fact, that even the Police Commissioner has just ordered the cancellation of a bona fide dinner scheduled to be held this winter by the Police Sergeants' Association of the New York Police Department.

Fire Commissioner Dorman has not gone as far as that, but he has issued public warning against sellers of spurious tickets for a so-called—"Twenty Year Firemen's Association." Scores of business men in New York have purchased these tickets in amounts ranging from $5 to $100, only to find out later that the affair as advertised on the gilt edged ticket, is to be held next May, and that the promoters of it are professionals who make a livelihood out of selling tickets in the name of firemen and policemen too.

Business men in New York have become sick, sore and disgusted with the ticket selling pest. As a general thing, the firemen in any city stand higher in the affection of its citizenry than do the policemen, not that they are any the less in morals or public service. Policemen, however, represent protection and law enforcement, while the fireman is regarded and treated solely as a guardian rather than a monitor. Therefore it is much easier to sell fire tickets than police benefit tickets.

W. J. DALY.

Ex-Chief Litchfield of Quincy, Mass., Dead—Amos L. Litchfield of Quincy, Mass., died recently. He was a member of the old Tiger company and was appointed chief in 1906.

Liberty Center, O., to Purchase Fire Apparatus—A fund is being raised by Liberty Center, Ohio for the purchase of fire apparatus.

New Britain, Conn., to Have More Firemen—Ten additional firemen will be appointed in New Britain, Conn., to man the new Belvidere fire station that will be opened soon.

WITH THE EDITOR

A Happy New Year to All

With the drawing to a close of 1926, one's eyes naturally turn toward the future and what is to come. May your New Year, our Readers, be both prosperous and happy, free from all failures and regrets and be crowned with success and joy!

Important Arson Decision

A decision which should have important results in curbing a certain type of arsonist who hides behind his wife's skirts, was rendered in a North Carolina court recently. This was an instance in which the property burned was insured in the name of the convicted arsonist's wife, he evidently hoping to collect in his wife's name the results of his crime.

However, the judge checkmated this move, which, under ordinary circumstances, might have proved successful, by requiring the man and woman found guilty to cancel, and surrender, as part of their punishment, the insurance policy on the burned property, amounting to $5,750. The loss on the risk was total.

This action, it would seem, forms an excellent precedent for the checking of a nefarious practice that would be a fruitful source of increase in the already growing list of types of incendiaries. The action of this judge should be brought to the notice of other justices sitting in similar cases, so that proper action could be taken to reduce this style of incendiarism to a minimum.

Fire Hazards in Penal Institutions

A year or so ago there was considerable agitation along the line of inproving the buildings which housed the public charges of the State of New York from the standpoint of the fire hazard. This included the hospitals, insane asylums, workhouses, prisons, and similar institutions. It was pointed out at that time that a great number—perhaps the majority—of such buildings were not only not fire resistant, but were a decided menace to the lives of the inmates.

Much has been done since that time to improve conditions among such public institutions, but there still remain quite a number of them which are housed in structures which, from the fire protection standpoint, are a disgrace to the Empire State and its government. One of these spots, apparently, is Riker's Island, in the East River, opposite New York City. Judging from the report, just made by State Commissioner of Prisons Frank E. Wade to the commission, conditions in the penal institutions on that island are the worst that could be. The twenty-nine wooden buildings, according to the commissioner, used as dormitories, workrooms and for other purposes, are of a combustible nature and are situated in close proximity to each other, constituting an extremely hazardous fire risk. A fire under sufficient headway would quickly destroy most of the buildings.

While the standpipes, fire alarm, fireproof doors, hose equipment, and inmate fire companies will afford some protection, there is no fire engine on the island, and poor facilities for quickly bringing one from the mainland, and, furthermore, the water pressure would be likely to fail in case of the heavy draft for a fire being placed upon it.

Such a condition as this should be remedied at once. If there are no funds available to provide proper housing facilities for inmates and protect the property of the State, the funds should be appropriated by the State legislature to defray this expense and the buildings should be rendered fire resistant either by rebuilding entirely or by sufficiently remodeling them to make them safe against fire.

Because the prisoners confined in these buildings are undergoing penal punishment is no reason that they should be subjected to the extreme hazards of death or injury through fire. The State is just as much obliged to take care of these unfortunates as it is to protect its sick and insane charges. Conditions on Riker's Island and elsewhere in New York State where inmates of public institutions are imperiled by fire, should be remedied as speedily as possible.

Locking the Stable Door

The ancient practice of locking the stable door subsequent to the theft of the horse is still practised in theory in many quarters. Only the other day advocation of this principle came from so erudite a source as one of New York's "city fathers."

This occurred at a meeting of the Board of Aldermen on December 15, when it was voted, amid some quite loud protests, to direct the committee on buildings to report within two weeks an ordinance which prohibits the use of wooden shingles as roofing within the limits of the city.

This ordinance, which has the support of Fire Commissioner Dorman, Chief Kenlon, the National Board of Fire Underwriters, many civic bodies, and—most important of all as far as its passage is concerned—the majority of the committee, was vigorously opposed by certain of the aldermen present. In arguing against the proposed law, one of these men challenged the assertion of Commissioner Dorman and Chief Kenlon that wooden shingles constituted one of the most extreme of metropolitan hazards, and advanced the plea that

"Brooklyn had used wooden shingle roofing for years without having suffered any great conflagration."

In other words why bother with protecting the city's roofs until a few hundred flimsily covered houses burn down? Why go to the discomfort of vaccination because you've never had small pox? Why muzzle dogs in the public streets, because you've never been bitten? Why go to the expense of accident insurance, when you've never been injured?

At any rate the honorable alderman can console himself with the thought that he is by no means the first who has advocated this idea of "locking the stable door after the horse has been stolen." The plan has age to recommend it, if nothing else!

One Solution of the Parking Problem

A Detroit bank has pointed the way to a solution of the vexing problem of parked automobiles in city streets, and their menace to and interference with the fire apparatus. This is constituted in the proposed erection of an eighteen story garage building directly connected with the bank structure proper and intended for the use of the patrons of the institution and the tenants of its offices.

This garage, according to the plans of the builders, will have accommodations for parking 700 cars. The floors not occupied with auto storage space will be devoted to offices, so that the enterprise will, no doubt, be a self-supporting one.

The importance of a number of such buildings in a large city, with its limited parking space, can easily be pictured. A plan something on these lines, has been proposed for the city of Newark, N. J., in this instance, however, city-owned and for the use of the general public. But whether city-owned or a private enterprise, the parking building in multiple, would seem to be one of the best solutions of the difficulty of streets cluttered up with standing automobiles, hampering the fire apparatus in their quick passage to a fire, and endangering the firemen who ride upon them.

If such parking garages can be made a profitable investment at a reasonable fee for housing and care during the time that the cars are usually left standing in the street while the owners go about their business, such buildings should spring up throughout the congested sections of cities and would do more than anything else to alleviate present intolerable conditions. Should enough of such places materialize to take care of all cars now parked in the streets, an ordinance might be passed, forbidding all such street parking, and thus end once and for all this nuisance and menace to life and property. At any rate such a solution seems quite within the range of possibility.

Deputy Chief of Holyoke, Mass., Dead—Daniel J. Gorman, aged fifty-five, deputy fire chief of Holyoke, Mass., died as the result of over exertion and inhaling smoke while fighting a tenement house fire. He was a member of the fire department for thirty-four years.

The readers of FIRE ENGINEERING will be pleased to learn that, beginning with the January 12, 1927, number, this journal will be issued every other Wednesday throughout the year, instead of twice a month, as heretofore, increasing the number of issues per year from twenty-four to twenty-six.

"THE FIRE BRIGADE" GOES OVER BIG AT NEW YORK PREMIER

New York Press Enthusiastic at First Showing of Motion Picture Fire Story—Chief Kenlon Speaks on First Night

THE Fire Brigade "arrived" on Monday evening, December 20. It had a notable opening, furnishing enough excitement, heart throbs and pathos to hold the attention of any audience. The story of the film was published in an earlier issue of FIRE ENGINEERING.

Following the showing of the picture, Chief Kenlon of the New York Fire Department, delivered a short speech, and as one newspaper put it, it was difficult to say whether one was more thrilled by the picture or by the talk of the veteran fire-fighter. His was a talk from the man himself. A few days ago, he lost his intimate friend, Deputy Chief O'Hara, who died as the result of inhaling smoke at a warehouse fire which, no doubt, had a great deal to do with the deep feeling evidenced in the talk.

The star of the picture is Charles Ray as Terry O'Neill, and Miss May McAvoy performed well as the charming Helen, daughter of the contractor who believes in saving money regardless of the effect on others. The fire chief is portrayed by De Witt Jennings. Tom O'Brien, who did such good work in the "Big Parade," acts the part of a fireman.

Special music for the picture was arranged by David Mendoza and William Axt, known to the radio audiences as part of Roxy's Gang.

The New York press was most enthusiastic in their comment. The New York *Herald-Tribune writes*, "Our advice is if you haven't made your list of the ten best pictures of the year, don't do it until you have seen 'The Fire Brigade.'

"'The Fire Brigade' takes you straight through a night of fighting the flames just as surely as 'What Price Glory' takes you through the war. It is one of the most exciting, inspiring, breath-taking pictures that it has ever been our good fortune to sit through. Don't fail to see 'The Fire Brigade.'"

The following comments appeared in The New York *American:*

"If there's any one who doesn't thrill to the clang of the fire engine and long to follow it, let him avoid the Central Theatre. This is a story of fires as are fires. Flames leap upon the screen, almost through the screen, sending hot waves of terror through the audience.

"There has never been a picture quite like 'The Fire Brigade' so handsomely and accurately filmed."

The New York *Times*, devoted considerable space to their comments of the picture:

"It hardly behooves a mere writer to say a derogatory word about 'The Fire Brigade.' It is the 'The Big Parade' of the men who risk their lives daily, aye, hourly, in every big city in fighting fires. It has its sentimental moments but, as Chief Kenlon said, 'It is never a great exaggeration of what happens!'

"In this picture no little pains has been taken to make it the most stirring production dealing with its particular subject. It has several episodes in colors that are in turn wonderfully beautiful and remarkably effective. 'The Fire Brigade' is not only interesting but it is informative."

"There is going to be a terrible kick in this picture for firemen's wives all over the country," says the New York *World*.

The first-nighters were enthusiastic. As the number of showings of the picture increases, there is every reason to believe that the number of boosters for the picture will likewise increase, and that the picture that required a year for its making, will have a very long stay on Broadway.

No Outside Work for Omaha, Neb., Firemen—Because of the increase in the wages of firemen of Omaha, Neb., the rule of prohibiting the men from taking outside employment will be strictly enforced.

QUESTIONS AND ANSWERS

Conducted by FRED SHEPPERD, B. Sc., M. E.

"He that questioneth much shall learn much"—BACON

NOTE—Readers of FIRE ENGINEERING are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.

Hydraulic Grade Line

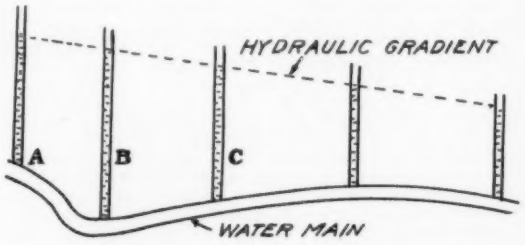
To the Editor:

Will you please give me a thorough explanation of the term "hydraulic grade line?"

Yours truly,
C. C. M.,
Canton, Ohio.

Answer: From the principles of hydraulics we know that if there is no flow of water in a pipe, that the pressure, called static pressure, is the same at every point in the pipe, if the pipe is laid in a level line.

Suppose that at various points along this line we install vertical glass tubes as illustrated in the sketch. The water level in each of these glass tubes will be the same because the static pressure is the same all along the line. Now when the



outlet of the main is opened and a flow of water takes place, other hydraulic principles enter into the case.

Due to the flow of the water, there is considerable pressure lost because of friction. From the point marked A to the tube B, there is a certain friction loss, and therefore the pressure or the height of the water in the tube at B will be lower than the tube A. Again, on going to the tube C, there is another friction factor because of the added length of the pipe, and the water level in the tube C will be lower than that in tube B, and so on down the entire main.

Now suppose a line is drawn connecting the points at which the water comes to rest in the various vertical tubes. This line will be known as the hydraulic grade or gradient, as it is more commonly known.

The flow of water in this case is from the left to the right. In actual practice, if the contour of the main was as illustrated, with the pipe laid at various levels, the hydraulic grade line would not be a straight line as illustrated, but the case has been exaggerated in order to make the explanation clearer.

Examination for Captain in Newark, N. J.

To the Editor:

Will you please answer the following questions that were submitted for promotion examination for captain in Newark, N. J.

Very truly yours,
C. E. McS.

Answer: In answering the questions that you have submitted, no answers are given to the questions under "Laws and Ordinances" as this is purely a local matter, and the practice changes with each locality.

Question 1. Assume a brick building one story and basement fronting on east, in the middle of the block. To the west of the rear across a 16-foot alley are three-story dwellings set back approximately 5-feet from the property line. To the north is a four-story department store, and to the south, the blank wall of a fireproof theatre. The first floor is diivded into five stores occupied as follows:

491—A battery service station, repairing and charging of batteries.

493—Automobile tire sales, repairs and vulcanizing shop.

495—A sign paint shop.

497—A cleaning and pressing establishment.

499—A paint store.

The basement is occupied jointly. As captain of an engine company, you are the first to arrive in response to an alarm of fire in the above buildings at 10 a. m. Upon your arrival, you find that the fire has gained considerable headway having enveloped the entire sign paint shop, and the flames are beginning to communicate to the cleaning and pressing establishment.

(a) State all the fire hazards that exist under the above conditions.

(b) If you were in command at this fire for ten minutes, state fully just what you would do and the order in which the action should be taken giving reasons for your procedure.

Answer 1. Due to the fact that this fire occurs at 10 a. m., there is little if any life hazard to be feared in connection with the theatre; the unpierced wall of this building affording ample protection for the persons who may be about the premises, allowing sufficient time to vacate the building if necessary. Patrons and employees of the four-story store to the north will, however, be thrown into considerable confusion, if not panic, unless the building is protected by a blind wall which would conceal the progress of the fire and in the meantime allow all persons therein to get to points of safety outside of the building.

The type of construction represented by these five stores is such as to lead to rapid burning. The large open basement with the usual fast burning materials in the cellar will develop into a hot fire in a very quick time. The fire may travel vertically by passing up through the stairway leading from the cellar on the inside of each store; it may pass up in the wall on either side of the row of stores. It will not, however, pass up through partitions as the partitions do not pass through the floor, but are built from the floor on up.

The battery service station is dangerous chiefly from the weight of materials found in it, as well as the possibility of sulphuric acid fumes being generated and the effect of these upon the men operating at the fire.

The occupancy of the auto fire and repair shop and the cleaning and pressing shop may be considered troublesome from a fire standpoint, as each will tend to burn rapidly and the materials usually found therein add to the intensity of the fire.

The sign paint shop and the paint store represent serious hazards due to the highly inflammable nature of paints, paint thinners, and so forth, and will in all probability prove troublesome due to the dense smoke and fumes encountered at fires in paint establishments.

If the fire passes up through any of the vertical passageways to the cockloft, which extends over this type of construction from end to end, and unobstructed, the fire will quickly involve the entire roof unless ventilation is provided and lines gotten into play at once.

The chief exposure is at the rear of the row of buildings across the 16-foot alley. Fire rising out of any of the buildings may readily involve the dwelling in the rear.

The exposure at the south is not serious from a fire standpoint, as there is an unpierced wall on that side. Details on the northern exposure are lacking; that is, whether a blind wall or a wall with windows is on this side of the store building. If the latter is the case, a serious hazard exists because if fire passes through any of these windows, it will likely make rapid headway over the large open areas stocked with highly combustible materials.

Possiiblities preclude the rapid spread of fire through the entire basement; the rising of the fire to the cockloft and spreading through the cockloft, involving the various stores by the fire burning through the floors or else up through stairways which lead to the basement; the possibility of fire spreading to dwellings in the rear as well as the 4-story store unless an unpierced wall affords the necessary protection.

In fighting this fire, if fire has involved the entire basement and if the contents thereof are of a highly inflammable nature, call additional help at once.

Locate the fire. Open street entrances to building and put lines in the operation at the seat of the fire.

Open up rear windows to provide ventilation and if necessary put lines to work.

If fire has covered the basement, then attention must be directed to covering exposures (vertical) and prevent the fire from getting into the cockloft.

Assign truck men to patrol stores to make sure that the fire is not rising therein and if necessary assign lines to stairways leading to basement to prevent fire from rising.

If smoke is too intense to operate from street entrances to building, cut holes in the floors and put cellar pipes to work over the fire. If the fire is confined to the cellar, distributors will best bring the fire under control.

Make sure that employees and patrons of store are not endangered by the spreading fire. Have building cleared out if necessary.

If stores are charged with smoke, ventilate by opening doors at front and windows at rear, and if necessary, the skylights over the stores.

Question 2. Define overhauling and state the purposes and value of same.

A fire occurs in a three story building with a grocery store on the first floor and apartments above. After the fire has been put out, you as captain are directed to take charge of the overhauling in the building. Explain briefly and completely what you would do.

Answer 2. Overhauling might be classed as cleaning up after fires. The object of this work is to reduce the damage to a minimum and check damage to goods through water passing from upper to lower floors of a building.

The question does not state in what part of the building the fire started or what parts were damaged by the fire and subsequently through water during the extinguishing operations. It will therefore be assumed that the fire started on the second floor and spread upward thereby making overhauling necessary on all three floors.

The first step to be taken in overhauling any building is to provide proper drainage so that the water will flow off without any unnecessary damage to the floors below. These operations should start at the top of the building, gradually working down through the entire building.

If the extent of the fire has been large, it will be necessary to go systematically through the damaged materials and household effects. Clear a space and work thoroughly through debris by shifting it to the cleared space, always working on a cleared floor. Use no water from hose line in wetting down unless the size of fire remaining, requires it. Instead, fill buckets or similar objects with water and dip the burning materials in the water wherever possible.

To insure safety to the men assigned to this work, a thorough examination of the floor beams should be made before starting operations.

The store will most likely be heavily stocked with canned goods and if any portion of the floor has been weakened, the remaining stock should be shifted to other points. As the two upper floors are occupied as apartments, these floors will not be heavily loaded and they should not prove hazardous unless the floor beams have been weakened by fire.

All light and air shafts, pipe and wire recesses, chutes and floor openings should be examined to make sure that the fire has not extended elsewhere. Also examine partitions, walls and frames about doors to see that fire is not concealed therein.

Question 3. State the chief objects of ventilating a building on fire.

Describe in detail how a ten story builing should be ventilated when the fire is on the third floor.

What precautions should be taken?

Answer 3. The chief objects of ventilation are: First, to draw the fire up through a confined channel through the building and exhausting the heat and smoke directly to the atmosphere above on the top floors so as to prevent it mushrooming over the entire floor area. Second, to relieve the building of gases and smoke and thereby make it possible for the members of the department to operate up close to where the fire is burning, checking the spread of the fire.

If fire has partial possession of the third floor, it is likely that this floor will be heavily charged with smoke.

Before the men can enter this floor, the condition will have to be relieved. This is best done by opening roof of building over the stairs and elevator shafts and opening such windows on the fire floor as are necessary.

Before opening up, lines must be in readiness. The procedure at this fire would be as follows: Stretch the lines from the second floor at the third floor stairwell entrance of the building (assuming the stairway not involved). Send a man to the roof by way of the stairway to open up over the elevator shaft, and stairwell also; have the lines in position for holding the fire back. Windows on the third floor at the front of the building can be opened from the ladder and as soon as they have been opened, lines can be put in operation at these points to work on the fire. Windows on the third floor front as well as those in the rear, may be opened by anyone of a number of different methods, even breaking the windows if they can not be opened otherwise. While the fire may travel up the elevator shaft, the holding of the stairway will make possible the rapid use of lines on the upper floors to prevent the fire from working in on any other floors above. In opening up the roof, it is a good precaution to make sure that no building will be exposed by the heat rising from the shafts; if such an exposure exists, a line should be brought into play to cover it.

Question 4. Name the two types of sprinklers for use in stores factories, etc., and explain clearly the operation of one in case of fire.

Answer 4. The two types of sprinklers used in stores, factories and so forth are the dry pipe and wet pipe systems.

The latter system will be briefly described. This type of system is one which is at all times filled with water, and the opening of the sprinkler head opens a valve which lets the water directly out.

When a fire occurs in a building which is sprinklered by this type of system, the heat of the fire melts a little connecting link on what is termed a sprinkler head. The connecting link upon melting permits the sprinkler head to open up and water supplied by the wet pipe system is discharged on the fire. The water for such a system may be supplied directly from a tank on the roof of the building, by a pressure tank, or by fire department connections.

Storage of Nitric Acid

To the Editor:

We are interested in finding out something about the hazards in the storing of nitric acid and any special precaution that should be taken, especially against fire. Any information that you can give us will be greatly appreciated.

Very truly yours,

E. E. P.

Answer: Nitric acid is very largely shipped in carboys, but certain metal drums are permitted for this purpose. It would seem preferable, if nitric acid is to be stored for any length of time, that it be placed in carboys rather than stored in any of the metal containers permitted for its shipment under the I. C. C. Regulations inasmuch as there might easily be in some cases, a very slow reaction between the acid and the metal, which while not harmful to the container, would result in the generation of inflammable hydrogen gas.

If the storage is in carboys, the carboys should be equipped with the porous stopper type of closure to vent off any gases which might result from any decomposition or other reaction within the acid, and that each carboy be carefully inspected before it is placed in storage. This is to detect any sign of crack or of acid spilled on the outside of the carboy or leaking into the carboy box.

While carboys are often loaded two and even three tiers high for rail transportation, it would be preferable in carboy storage to load them only one high if floor space permits. In this way damage to the individual carboys is less likely to result. While the carboys are in storage they must be protected against undue shock or being struck by trucks or similar apparatus. If any carboy is found cracked or leaking, it must be removed at once, as any leakage, if allowed to stand sometimes even for a short period, may result in a fire.

The experience of the Bureau of Combustibles of New York city, which has furnished the information, does not indicate that if carboys are in proper condition and provided with means already indicated for prevention of bursting from interior pressure, have any especial hazard in storage.

As no reasonable precaution should be omitted, however, it is suggested that even though the foregoing precautions have been observed, an occasional inspection of the entire storage would be advisable.

Albert E. Guiness Re-elected

The presidency of the Uniformed Firemen's Association in New York has been contested for the first time. It resulted in the re-election of firemen Albert E. Guinness of H. & L. Co., 118 by a majority of 1,754 out of 4,254 votes cast.

There was a complete opposition ticket in the field. All of the 320 companies in the department were represented excepting eight. These companies were either late in sending the ballots to the office of the association or the ballots were void or protested. Only one of the present administration was defeated; otherwise the present cabinet was re-elected.

W. J. DALY.

New Pumper in Cranston, R. I.—A new triple combination pumper has been placed in service in Cranston, R. I.

Wreckage on the Tanker Agwisun, After Explosion of Three Gasoline Tanks, After They had Been Emptied, Throug the Ignition of Fumes Remaining in Them.

ANOTHER TANK SHIP BLOWS UP BY IGNITION OF OIL FUMES

Vessel Had Just Come from Drydock—Moored at Erie Basin, New York, Pier—No Serious Injuries

FOR the second time in less than a month two oil tank steamers have been blown up through the explosion of gas generated by gasoline or oil in their tanks. The last issue of FIRE ENGINEERING contained the account of an explosion which wrecked the tanker "Mantilla," while in a drydock of the Bethlehem Shipbuilding Corporation at Sparrows Point, near Baltimore, Md., on November 19. This catastrophe caused the death of nine men and the injury of many others. Fortunately the second ship explosion did not cause any deaths and only minor injuries. This occurred on December 11, at 5:45 p. m., at the Erie Basin, New York City.

The tanker "Agwisun," while she was moored alongside of dock No. 2 of the Robbins Dry Dock Company, was blown up through the ignition, in some manner unknown, of fumes from the tanks which had just been emptied of their contents of crude oil. Twenty-seven men were on board of the steamer when the first explosion occurred, and probably many of these would have shared the fate of the unfortunates at Sparrows Point, but for the bravery of an oiler on the ship and the captain of a tug boat lying near by. When the first and smaller explosion occurred the oiler on the after deck caught up a line and threw it to the tug, then some thirty feet away. The captain of the little vessel, although he knew that he was taking a long chance for himself, his crew and his boat, quickly drew up under the tanker's stern, and the men on board of the doomed vessel, who had rushed to the outer air at the first concussion, well knowing what it meant, swarmed down the rope to the deck of the tug. The little vessel was clear when the two other tanks let go at once in a concussion that was felt for many miles in all directions. While some of the men sustained minor injuries or suffered from shock, not one received any serious hurt.

The illustration gives a graphic idea of the force of this explosion. The heavy steel deck plates were crumpled like paper, and ripped apart, and pieces of steel were scattered many feet in all directions. The blast shook New Jersey communities as far away as Sandy Hook and police of the various towns reported inquiries from citizens of these places as to whether there had been an earthquake.

Twenty-five fire companies under command of Deputy Chief O'Hara, and two fire boats, the Gaynor and Mitchell, were in service to fight the resulting fire in the tanker.

After the first brief flash of flame the vessel was shrouded with smoke, through which firemen from land companies and two fireboats fought their way to pour streams of water into the three midship holds. After an hour's fight they had the flames extinguished and, although the whole mid-section of the ship is rent and twisted and blackened, the after part, where the engine room is, suffered comparatively little damage.

More damage would have been caused by the explosion and the danger of the fire spreading would have been great had the vessel been lying close in shore. The tanker was at the far end of a pier, however, well out in Buttermilk Channel, which separates Governor's Island from the Brooklyn shore.

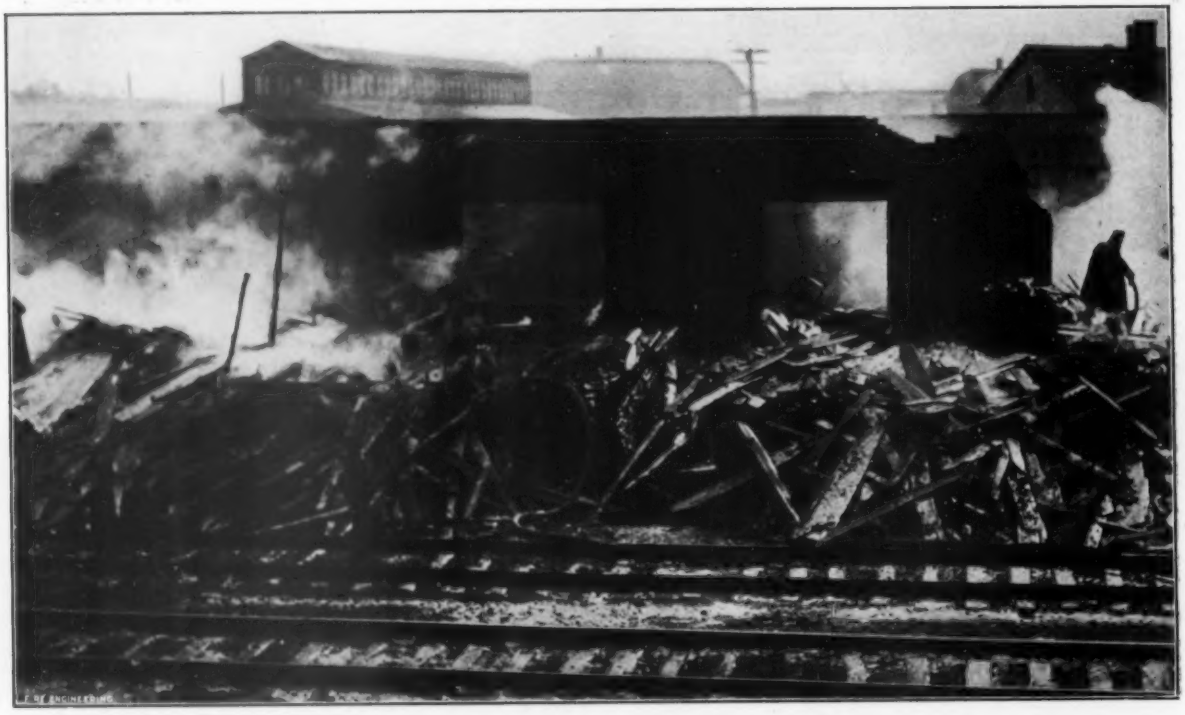
The Agwisun is a steel screw vessel of 6,784 tons, 429.3 feet in length, 59.2 in the beam and 33.2 in depth. She was built in Chester, Pa., in 1920. She had come up from Beaumont, Tex., carrying 7,800 barrels of crude oil for the Atlantic, Gulf and West Indies Company in its nine cargo tanks. The cargo was pumped out at Tompkinsville, and the dangerous period of every tanker's voyage began. Some of the oil always remains in the tanks, and if air gets in the vapor may be exploded. The tanks usually are kept filled with steam to keep air out, and it is declared they were "in steam" during the past four days of overhauling at Robins Dry Dock.

Two Fires in Tokyo, Japan, Cause Large Damage

Two fires in Tokyo, Japan, caused damages that are estimated at 1,400,000 yens ($697,200) and made 1,300 people homeless. The first fire destroyed twenty-two factories and five homes while the second fire, which was like a conflagration, destroyed 250 homes. The fires occurred in the Nipori section—a district known for the frequent number of fires. The area is protected with fire equipment and this is responsible for the check of the flames even in spite of the strong wind that was then blowing.

Oglesby, Ill., Raising Funds for Apparatus—Funds are being raised in Oglesby, Ill., for the purchase of a 300-gallon pumper.

Pay Nickel to See House Burn—A fire occurred in an uncompleted tenement house in New York city near the elevated structure. A vantage point from which to see the fire was the nearby elevated station of the "L" and many paid a nickel to get on the train platform to view the firemen at work.



Fire in Big Sash and Door Factory at Hammond, Ind., which for a Time Threatened a Large Manufacturing Area Surrounding It with Destruction, and Necessitated Calling on Two Other Cities for Assistance.

PLANING MILL AND LUMBER FIRE THREATENS INDUSTRIAL DISTRICT

Many Lumber Yards and Other Inflammable Establishments Surround Hammond, Ind., Plant—All Are Saved Except Plant of Origin

A PARTICULARLY hazardous fire was that occurring in the planing mill, storage warehouse and lumber yard of the Fisher Brothers Sash and Door Company, situated in Robertdale, a suburb of Hammond, Ind., lying between that city and Whiting. The perilous nature of the blaze arose from the fact that it was situated in the midst of a lumber and other manufacturing area, with an immense amount of inflammable material nearby.

The fire was discovered at 1:30 a. m., by some passing motorists, in the storage plant of the big concern, and at this time the flames had already broken through the roof of this structure and were fast communicating with the planing mill adjoining, besides having caught some of the large number of lumber piles in the yard.

Hammond and Whiting fire companies were soon on the scene, and East Chicago was appealed to by phone for help. This department sent one company, which did much good work, in company with the other two departments, in preventing the spread of the fire to the surrounding plants.

The Fisher establishment occupied an entire block and the fire was thought to have originated in a short circuit from crossed wires in the storage warehouse. The fire burned six hours, and completely destroyed the entire Fisher Brothers' plant. The blaze was, however, prevented from spreading to surrounding establishments. The heat from the burning lumber was so intense that for a time the fire-fighters were greatly hampered in handling the fire and the spectators were kept a block away from the scene of action. The loss was estimated at between $200,000 and $250,000.

New Car for Beverly, Mass., Chief—A new fire chief's car has been delivered to Beverly, Mass.

Chief Dinges of Belleville, O., Dead—Frank R. Dinges, for many years chief of the Belleville, Ohio, department, died as the result of an abscess in his lung. The abscess was aggravated as the result of his attempt last May to save several people from a burning building. He is survived by a widow, a son, a daughter, three brothers and three sisters.

WHAT'S BURNING

THE following list includes fires of $25,000 loss and over in the United States and Canada, for the periods designated in the headings. These figures, compiled from telegraphic reports, are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.

Week Ending December 10

HUDSON, ILL.—Sunkle Hardware and Gentry Restaurant destroyed 25
SAGINAW, MICH.—Barn on farm of J. W. Fordney destroyed. 30
NEW BALTIMORE, MICH.—Summer home of E. G. Liebold destroyed 25
CENTRAL FALLS, R. I.—Dye house of Premier Cement Company 50
BRISTOL, PA.—Bristol Theatre destroyed..... 85
NORRISTOWN, PA.—Plant of American Magnesia Company destroyed 30
LONG BRANCH, N. J.—Church of Our Lady Star of the Sea and adjacent property, total..... 135
CHESTER, PA.—Store of Chester Hardware Co., adjacent property 125
FRANKLIN, MASS.—Three buildings at plant of F. H. Appleton & Son..... 170
HILLSDALE, N. Y.—Hillsdale Plow Co., factory owned by Wm. A. Mallory..... 65
SELINSGROVE, PA.—Plant of Selinsgrove Silk Manufacturing Co. 65
LANCASTER, PA.—Barn on farm of Fred. S. Pyfer along Harrisburg Pike..... 50
MARSHVILLE, W. VA.—Two oil tanks and quantity of oil.. 80
NEW LONDON, CONN.—Second Congregational Church destroyed 225
MONTGOMERY, ALA.—Building occupied by Weil Brothers Cotton Co..... 65
KERSHAW, N. C.—High School building destroyed..... 40
BROWN'S STATION, ALA.—Block of business houses destroyed. 25
BENTON, WASH.—Hotel of S. J. Harrison destroyed..... 35
BOSTON, MASS.—Unitarian Church destroyed..... 40
HUNTSVILLE, ALA.—Residence on Whitesburg Pike destroyed. 25
UTICA, N. Y.—Business establishments at Bleecker St. & Kossuth Ave. 85
HAMILTON, OHIO.—Main power plant of Champion Coated Paper Co. 40
BRONX, NEW YORK, N. Y.—Conron Building, 651 Brook Avenue damaged.....170
EROS, LA.—Several business establishments destroyed..... 25
NASHUA, IOWA.—Nashua Woolen Mills damaged..... 50
EVANSVILLE, IND.—Strand Theatre destroyed..... 170
PALMS, CALIF.—Warehouse of Southwestern Engineering Company. 120

SAN FRANCISCO, CALIF.—Building occupied by Wilson Garage and Sutton Repair Shop and contents..... 250
SAN FRANCISCO, CALIF.—Central maintenance building of Oakland School Department..... 85
MONTREAL, QUEBEC.—Concert Hall of Catholic Sailors Club destroyed..... 50
HAVERHILL, MASS.—Sayward Hardware Company..... 40
WILLIAMSTOWN, MASS.—Home of George W. McGraw, Three Blocks Farm..... 25
BRIGHTON, N. Y.—Several buildings with contents on farm of Isaac Nagan destroyed..... 85
ST. LOUIS, MO.—Warehouse of Skinner & Kennedy Stationery Company..... 45
RICHMOND HILL, L. I. N. Y.—Richmond Hill Foundry Company building..... 60
HAMMOND, LA.—Freight depot of Illinois Central R. R..... 50
GOULD, ARK.—Plant of Gould Light and Ice Company..... 40
DALLAS, TEX.—Martin and St. George Hotels damaged..... 45
PASSAIC, N. J.—Rialto Theatre and other buildings in business district..... 125
HOBOKEN, N. J.—Tenement houses on Madison Street..... 45
NEW YORK, N. Y.—Loft building at 21 Walker Street damaged 85
JERSEY CITY, N. J.—Residence at 76 Mallory St., others damaged..... 25
BOSTON, MASS.—Home of Mrs. E. W. Pratt, Beacon Street... 25
OXFORD, MASS.—Factory of Grossvenor Company..... 60
KALAMAZOO, MICH.—McDonald Drug Store, Kresge Store... 115
LOUISVILLE, COLO.—Several business buildings destroyed... 65
EVANSTON, ILL.—Flossy Dental Mfg. Co., 1851 Benson Avenue, also Cannon Electrical Service Co..... 425
DORCHESTER, N. B.—Two stores and garage destroyed..... 40
QUEBEC, QUE.—Garage and thirteen automobiles, Crown St... 30
PEMBROKE, GA.—Lumber yard of Southern Lumber Company damaged..... 50
RUSH CITY, MINN.—Building of Carlson Creamery Company destroyed..... 30
ROCHESTER, N. Y.—Block in east Main Street damaged..... 250
COCHRANTON, PA.—Plant of Nonparell Manufacturing Company..... 50
PITTSTON, PA.—Business establishments 54-60 Main Street.. 85
NEW HAVEN, CONN.—Business establishments in old Ives Block..... 125
MIDDLETOWN, CONN.—Middlesex Theatre damaged..... 85
BORGER, TEX.—Approximately 12 buildings damaged to extent of..... 210
E. ST. LOUIS, MO.—Property of Cain-Hurley Company (Centerville)..... 275
DETROIT, MICH.—Apartment building owned by John Golds, Fort St..... 50
DANVILLE, ARK.—J. B. Choate and Ladd & Pledger stores... 30
MONTGOMERY, ALA.—Building occupied by business concerns and owned by Mrs. J. W. Cook..... 85

Week Ending December 17

FREEPORT, ILL.—Several business establishments destroyed 25
HARTFORD, CONN.—Plant of Capitol Foundry Company.. 60
SAN ANTONIO, TEXAS.—Gunter Hotel destroyed..... 1,700
AMHERST, MASS.—Jones Library damaged..... 85
NUNDA, N. Y.—Five business buildings destroyed..... 85
PINE BLUFF, ARK.—Several sheds and kilns of the Norton-Wheeler Co..... 25
SCHNEIDER, IND.—Restaurant, garage and grocery store destroyed..... 25
EVERETT, MASS.—Power house of Beacon Oil Refinery destroyed..... 170
MILWAUKEE, WISC.—Property of Eder Manufacturing Co. damaged..... 25
EATON, COLO.—General Mercantile Company, damaged.... 40
BUFFALO, N. Y.—Home of L. R. Steel at Getzville, destroyed 40
BRISTOL, CONN.—Bristol Theatre damaged..... 25
NASHVILLE, TENN.—Railroad Wreckage Co. and adjoining property..... 70
DALLAS, TEX.—Plant of Bingo Manufacturing Co., Hord Street..... 35
HOUSTON, TEX.—Seaport Grain Company warehouse, Sampson Street..... 25
BEDFORD, VA.—Municipal Building damaged..... 25
CHICAGO, ILL.—Building owned by Darling & Company, S. W. corner of stockyards..... 80
YORK, PA.—Plant of Rudolph Barner Paper Company destroyed..... 80
HAZLETON, PA.—School building destroyed..... 25
WALNUT RIDGE, ARK.—A. J. Hays Dept. Store and adjoining property..... 85
MIFFLINTOWN, PA.—Finishing department of Juniata Hosiery Mills..... 50
HAVERHILL, MASS.—Factory bldg. of Chelsey & Rugg Box Company..... 85
BATON ROUGE, LA.—Sugar refinery of Grenada Plantation.. 60
MINNEAPOLIS, MINN.—Store of T. F. Dunlevy, Nicollet Avenue..... 25
MINNEAPOLIS, MINN.—Business establishments at 213 Sixth Street..... 85
SOQUIL, CALIF.—Odd Fellows' Hall and surrounding property 70
JERSEY CITY, N. J.—Colonial Insurance Company damaged.. 40
LANCASTER, MASS.—Residence of Edgar E. Miles..... 25
HEBARDSVILLE, GA.—Wacona Consolidated School Building 35
ATLANTA, GA.—Apartment house at 627 N. Jackson Street owned by Flager Construction Company..... 60
MARION, IND.—Kresge Store, bank and department store damaged..... 425
RUDD, IOWA—Two business buildings destroyed..... 30
ATHENS, ALA.—Warehouse of Athens Storage Company destroped..... 85
DES MOINES, IOWA—Graber-Cavender Company damaged.... 70
SCHENECTADY, N. Y.—Hewitt Property, 124 Rosa Road, destroyed..... 25
READING, PA.—Reading Waste Paper Company's warehouse.. 30
OLYPHANT, PA.—Lynch Building destroyed..... 70
ST. PETERSBURGH, FLA.—Dredge of Pulver Islands Development Co..... 40
KENILWORTH, N. J.—Plant of Protexel Company, damaged.. 25
BRUSHTON, N. Y.—The Brushton Grade School destroyed.... 25
CHICAGO, ILL.—Building and stock of Huber & Sweet toy factory..... 40
McARTHUR, OHIO—Ten buildings destroyed..... 170
DURANT, MISS.—Coal chute of Illinois Central R. R..... 40
CARLISLE, PA.—Hotel Argonne and drug store adjoining, damaged..... 35
DETROIT, MICH.—Levine Waste Paper Company, Napoleon St. 40
NEW BEDFORD, Mass—Alpert Furniture Company, S. Water St. 25
ATLANTA, GA.—Hunter-Adams Millinery Store damaged..... 25
OOLITIC, IND.—Warehouse of Indiana Limestone Company... 85
HATTIESBURG, MISS.—Weisenberg's General Store destroyed. 40
AUSTIN, TEX.—Littlefield Bldg., owned by M. H. Reed..... 45
SEATTLE, WASH.—Todd Dry Docks, Inc., damaged..... 65
SAGERTON, TEX.—Business buildings destroyed..... 40
ETNA, PA.—Plant of Enameled Metal Company damaged..... 45
SPANISH FORKS, UTAH.—Gem roller mills destroyed..... 40

One of the Serious Moments in Charlie Chaplin's Life

Both Charlie Chaplin, screen comedian and his leading lady, Merna Kennedy were in danger of losing their lives when a short circuit in one of the Kleig lights in their studio at Hollywood, Cal., started a fire that caused a property damage of $40,000. Charlie Chaplin is shown here watching the firemen in their work, and few are aware of this "unwritten" part of the scenario.

Demonstration of Stability of Magirus Ladder.

Magirus ladder trucks continue to gain in popularity in Europe if the increasing number of sales is any indication thereof. The demonstration here with a fireman at the top-most rung of the ladder, and the ladder extended to its full length and at a sharp angle, shows the stability of the apparatus, and one of the reasons for its great popularity.

MONTREAL, QUEBEC—Apartment house at Gironard Ave., Notre Dame De Grace..... 30
RISON, ARK.—Branch of F. G. Smart Motor Company destroyed 30
CHICAGO, ILL.—Entertainers' Club destroyed..... 60
BATH, N. Y.—Jones Drug store, Liberty St..... 25
EAST LIBERTY, PA.—Buildings occupied by Reo Auto Service and Pittsburgh Auto Spring Companies..... 225
MILWAUKEE, WIS.—Atlas Flour Mill, Commerce & Cherry Sts. 85
SHAMROCK, TEX.—Business and residential property to amount of 225
LOS ANGELES, CALIF.—Bisch-Salsman Furniture Company and Los Angeles Lime Company damaged..... 60

Deputy Chief O'Hara, of New York, Dead

Deputy Chief John F. O'Hara, commander of the fire department of New York city in the boroughs of Brooklyn and Queens, passed away quietly while he was sleeping at his home on Saturday, December 18. It is believed that death resulted from the severe exposure of fighting a four-alarm fire in Brooklyn on the night previous.

The Late Deputy Chief J. F. O'Hara

He had an appointment with Fire Marshal Brophy and when his wife went to wake him from his nap, she found him dead. When Chief Kenlon was notified of the loss of his valuable assistant, he was greatly affected. Both men were working together in fighting the large warehouse fire.

Chief O'Hara was a fireman for forty-three years. He came to Brooklyn from Ireland when he was a boy and he worked for a firm that supplied feed to the fire department. In this way he became interested in fire department work and as soon as he was old enough, on January 31, 1882, he joined the department. His first assignment was with Engine Co. 114 and was promoted to an assistant foreman of a ladder company. Later he went back to command Engine 114. In 1907, he went to the thirteenth division as battalion chief and he was made deputy chief in 1909.

For three years he acted as commander of the Brooklyn department for Chief Lally, and he was appointed to this position in 1918.

He is survived by a wife, four sons and two daughters. The family home, almost since the chief was married, has been at 508 Hancock street, Brooklyn.

More than six hundred firemen attended the funeral held Tuesday, December 21. The representation from the fire department was led by the Fire Department Band, Fire Commissioner John J. Dorman, Deputy Commissioners William Thompson and Joseph Hannon, Chief John Kenlon, Assistant Chiefs "Smoky" Joe Martin and Patrick Walsh, Deputy Chiefs John Davin and Richard Marshall, Honorary Deputy Chiefs William W. Cohen, William F. Kenny, Edward J. Kenny and Robert H. Mainzer, and Honorary Medical Officer Harry M. Archer.

The honorary pall bearers were Deputy Chiefs Thomas R. Langford, John T. Waldron, Garrett J. Langdon, George L. Ross, John F. King and David J. Kidney.

In addition to those mentioned, Gov. Alfred E. Smith was represented at the services by his son, Alfred E. Smith, Jr., and by his brother-in-law and sister, Mr. and Mrs. John Glynn. District Attorney Charles J. Dodd, Assistant District Attorney Joseph V. Gallagher, Ex-Chief Paul Moore (now U. S. Congressman) of Newark and Deputy Chief John J. Sweeney of Jersey City, N. J., also were present.

New Headquarters for Valley Stream, N. Y.—The Commissioners of Valley Stream, L. I., N. Y., voted to erect a new headquarters building to replace the one that is now outgrown.

N. J. State Fire Chiefs to Meet—The New Jersey State Fire Chiefs' Association will hold its regular quarterly meeting on Wednesday, January 19, at Orange, N. J. This date was decided at the meeting of the Board of Directors on December 16.

Canadian Fire and Police Chiefs Meet

The Fire and Police Chiefs Club of Montreal Island, Quebec, will hold its next regular meeting Monday, January 10, at the Queens Hotel, Montreal.

Fire chiefs and others interested in attending the club meetings which are held the second Monday of each month at Montreal, should communicate with Chief Robert Harrington, 1456 Notre Dame St., East Montreal.

Members of the club include the fire and police heads of Montreal and surrounding municipalities which make up the Isle of Montreal.

Banquet of Box 52 Association

The annual dinner of the Box 52 Association, Inc., of Boston, was held on Saturday evening, November 6, in the Hotel Westminster, Copley Square, Boston, Mass. On this occasion the newly elected officers took up their duties and were introduced to the guests by the retiring president, William F. Lehman, who acted as toastmaster.

The new officers are President, George C. Ambrose; Vice-president, Bartlett Tyler; and Treasurer, P. Hildreth Parker. Secretary Harry J. Rockett and Assistant Secretary Fred Blake were re-elected.

Among the honorary members and guests who attended the function were:

Fire Commissioner Eugene C. Hultman, Chief Daniel F. Sennott, Assistant Chief Henry A. Fox, Deputy Chief Albert J. Caulfield, and Supt. of Fire Alarms George L. Fickett, of the Boston Fire Department; Dr. E. G. Stillman, Honorary Battalion Chief, New York Fire Department; William H. Lewis, of the Box 4 Associates, of Worcester, Mass.; Fire Commissioner Willard W. Eastabrook and Chief Selden R. Allen, of Brookline, Mass.; Chief Homer R. Marchant, of Gloucester, Mass.; Chief James M. Casey, of Cambridge, Mass.; Chief John W. O'Hearn, of Watertown, Mass.; Chief W. H. Hill, Jr., of Belmont, Mass.; Chief R. T. Breagy, of Dover, Mass.; Deputy Police Superintendent Thomas F. Goode; Franklin H. Wentworth, secretary of the National Fire Protection Association; Chief William H. Mahoney, of Peabody, Mass.; Dr. Edwin W. Bullock, of the New England Telephone Company; the Rev. R. F. Hoyt, of Beverly, Mass.; W. F. Conran, of New York City; and Ensign Floyd R. Keller, of the Salvation Army.

The entertainment included some fine motion pictures shown by Dr. Stillman, speeches, music, and a discussion of fire prevention and traffic problems.

HARRY BELKNAP.

Fraudulent Fire Extinguisher Scheme

A scheme of distributing a one-quart size of carbon-tetrachloride fire extinguishers bearing the advertisement of some local fire insurance agent, has been discovered in various parts of the country.

A representative of the fictitious company makes a proposition to the insurance agent that he will distribute fire extinguishers gratis in the town and that for a fee of fourteen cents each for a thousand extinguishers, the company would affix an advertising label of the agent on the extinguisher. The recipient of this "gift" is charged $1.95 for a refill. Although the plan has been in operation for some time, neither the extinguishers or the labels have made their appearance on the market.

A sample of the extinguisher, which while resembling one of standard design, shows several defects in construction. It will not operate when pointed upward and may only be emptied if the label side is upward.

Philadelphia Works False Alarm Cure

Two hours' work at polishing brass in a fire station cured two Philadelphia, Pa., boys from the prank of turning in false alarms.

Their pranks kept the firemen of South Philadelphia very busy, and when they appeared before the judge in the Juvenile Court, the youngsters were sentenced to the custody of the firemen who said that they would "entertain" them.

The youngsters were first shown about the station as they were some distinguished visitors. After they were thoroughly familiar with the arrangement of the place, they were given a metal polishing outfit and told to polish all the metal work in the station, and to get the station in order.

The original sentence of the judge was detention for one afternoon, but after two hours of work, the firemen thought that the cure was effective, and the youngsters were released from serving the complete sentence. The boys agreed that they would never tamper with a fire alarm box again.

OF INTEREST TO VOLUNTEER FIRE DEPARTMENTS

Conducting Fire Company Meetings

Those who give serious thought to the problems of the volunteer fire department must find a great source of amusement in the manner in which most of the volunteer firemen conduct their monthly meetings, or semi-monthly as the case may be. Without any semblance of order, or without any definite program, the officers of the company trust to the guidance of Providence to furnish interesting discussion and debate to hold the attention of the men.

The reason that many of the meetings of the volunteer fire department are not successful may be attributed to any or all of the following causes:

Meeting not conducted in accordance with parliamentary rules. Each member speaks without obtaining permission from the presiding officer.

Lack of definite program. Nothing has been outlined for presentation at the meeting, and sometimes the main issues are overlooked in the haste to adjourn.

Lack of interesting topics. Each meeting is a continuance of the dull topics brought up at previous gatherings.

Lack of members at the meeting. The firemen have no incentive for sacrificing an evening to attend the meeting.

Analyze the list. Perhaps other causes may be added, but the chief contributing factors for the failure of an interesting meeting has been mentioned.

The presiding officer should be a man of firm mind and one who is respected. Each one of the members desiring to talk should first obtain permission from the chair, and he should confine his remarks to the subject at hand. If the discussion wanders, the presiding officer must direct the conversation to the proper channels and tactfully remind the speaker that he is wandering from the topic placed before the membership. If the member obeys this rule, he is accorded the privilege of the floor until such a time as he desires to sit down. Those talking while some one has the floor should be reminded of the fact, and if necessary the sergeant-at-arms should evict the unruly ones from the rooms. One or two evictions will soon impress the others that the presiding officer will not tolerate any buffoonery.

It is well to designate some author of parliamentary rules as the ruling authority of any matters regarding the proper procedure of appointing committees, granting the floor and other rules of procedure. In order to avoid any heated discussion or cross talking, it is well to have the rule that once the floor is surrendered, the member may not have it again until the privilege of talking has been accorded to two other members. Where this rule has been tried, it has been the means of preventing heated discussions.

Before a meeting, say a week previous, the officers should meet and outline some of the problems that should be brought before the meeting. Matters that are not on this list should also be considered, but assurance is given that there will be sufficient material to keep the meeting lively. By preparing an outline, there is a safeguard that all the important topics will be covered and it will not be necessary to wait another month before the company can take official action.

Where the volunteer department is near a large city, it is not at all difficult to obtain men who will come out to talk on fire department subjects. Such speakers may be obtained by writing to the chief of the fire department, or the secretary of the local Chamber of Commerce, Rotary, or Kiwanis Club, or the Insurance Club if there is one. As the speaker donates his own time to the cause, the fire company should be prepared to pay for his railroad fare, and for any hotel expenses in the event that he is unable to make suitable railroad connections to return to his home that night.

Where the town is removed from such conveniences, dull meetings may be made interesting by assigning topics to members to discuss. Suppose that Mr. Smith is assigned the topic of "Electrical Fire Hazards", and Mr. Jones is given one, "Cooperation From the Boy Scouts." In the first instance a large amount of material may be obtained from local electricians or electrical contractors, and possibly from some of the insurance agents who are supplied with educational material from the fire insurance companies that they represent. Interesting data may be also obtained from the state rating office or from the National Board of Fire Underwriters. Information for the other topics may be obtained by discussion with the local scout masters or by writing to the state fire marshal or the headquarters of the Boy Scouts. There is always sufficient lanes open for collecting data for interesting informal discussion. The member assigned to a topic should be given sufficient time for its preparation.

In the instances where each meeting is a duplication of the one preceding, there is no incentive for a member to attend. Where the thought presented in the previous paragraph is tried, the one assigned to the topic will try to gather sufficient firemen together to ensure that he will have a fair size audience to repay him for the efforts in the preparation of the talk.

Towns that have two meetings a month can well afford to devote one meeting to the business matters of the fire department and the other to such features that will provide entertainment—informal suppers or dances. Where there is one meeting a month, a great deal of judgment is required. A certain portion of the evening should be set aside for discussing the business of the company, another portion for the presentation of talks and recreation, and sufficient time should be left to permit the serving of refreshments without having the meeting break up at too late an hour. The volunteer firemen must report for work the next day, and if the meetings continue until the early hours of the morning, the possible good will be spoiled by too great an enthusiasm.

Refreshments invariably bring out the membership. An hours work on the part of two or three men will provide all the sandwiches and coffee to feed the crowd, and where the refreshments are prepared by the members, the cost is within the limits of the treasury. At one meeting there could be sandwiches, at another, crullers and cider and possibly at a third a light warm meal. It is necessary to change the variety of things so as to get away from a standard pattern. People like to be surprised and if the men are unable to foretell just what will take place, the curiosity will get the best of the men, and the attendance list will increase.

All the suggestions offered for conducting the meetings for the betterment of the company will come to naught unless there is a coordination of plans between the officers and the members. Try some of the ideas and see if they were not worth the effort.

New Type Pumper Being Marketed

A new type of pumper that is equipped with a number of pumps is being marketed now by Clarence N. Sylvester of Boston, Mass. The apparatus is of light construction and will, it is claimed, go over snow and other bad road conditions without the trouble encountered by heavier machines. It is claimed that the unit is ideal for forest fire service, and the pumper illustrated has been built for this kind of work. Each apparatus has eleven pumps so that it is possible to direct a number of independent streams on the fire.

Sylvester Apparatus Equipped with 11 Pumps

A test of this type pumper was made before the forestry department of the State of Massachusetts, and the officials who witnessed the tests were very well pleased with the results and with the operation of the pumper. Arrangements are being made to test the pumper before some of the officers of the Boston, Mass., fire department.

Rockville Center, L. I., Fireman Cleared of Charges—A fireman of Rockville Center, L. I., N. Y., who was charged with setting fire to his father's barn and who was one of several charged with setting fires to promote the activities of the fire department, was freed by the county court. This closed the case that attracted considerable attention from the various volunteer fire departments.

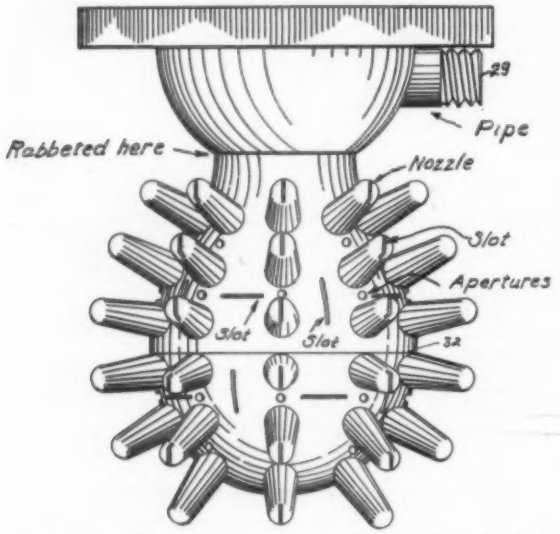
Recent Patents

Descriptions of Patents Recently Issued of Interest to Fire Departments—Sprinkler Head—Fire Alarm Device

Sprinkler Head

A design of a sprinkler has been patented (No. 1,593,500) by Lucian Mantell of New York, N. Y., and consists primarily of a hollow body having radiating nozzles, and so constructed that it may be part of a gas pipe or an electric conduit and become an ornamental part thereof. The drawing shows the sprinkler in perspective.

The base is provided with an externally threaded flange which engages the dome shaped casing having its lower end open and slightly rabbeted thereby forming an annular joint for the reception of the hollow globular sprinkler head. To the outer end of the conduit is threadedly secured the convex bearing member adapted to rotate within the concave depression formed in the



upper face of the support cooperating therewith to form a swivel joint. Secured externally to the outer walls of said conduit are the vanes which lie in the path of the incoming jet of water from the tangentially arranged pipe.

The globe shaped sprinkler head is provided with a number of radially extended nozzles arranged in several planes about the surface and each provided with a flat slot shaped opening. The function of these slots is to permit the water to issue from the jets in a fan-shaped form. The surface of the head is provided with a vertically and horizontally arranged slots and with various small apertures. The slots and apertures produce jets of various shapes and these commingle with the fan-shaped jets. The entire head rotates thereby ensuring that each part of the room is reached by the jets.

The lower part of the head is provided with akerf which is adapted to receive a tool by means of which the conduit is held station while the tightness of the joints is regulated by turning the globular head relative to the conduit.

Fire Alarm

The design of a signal device that will automatically go into operation when a certain temperature has been reached has been patented (No. 1,593,002) by Oscar A. Zahner of St. Louis, Mo. The object of the design is to provide a device the operating element of which is a coiled thermostatic metal which sets off a clock mechanism at a desired temperature. The illustration shows the design partly in section.

A clock mechanism is provided and is connected to the frame work by three posts. A key is provided for winding the spring.

A train of gearing is operatively connected to the winding spring and the last gear of the train connects with an escapement pivotally mounted between the plates of the frame work by means of an arbor. A pin is fixed to and carried by the escapement arbor so as to be oscillated thereby when the escapement oscillates. Loosely connected to the end of the escapement is a clapper of any desired construction, so as to strike the gong, which covers the moving parts of the mechanism.

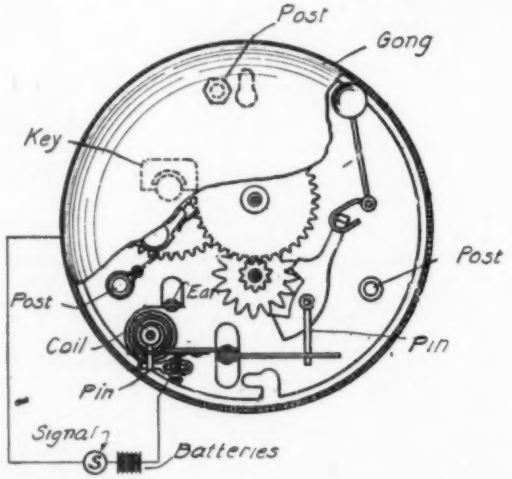
In order to normally hold the clapper from striking the gong, a thermostatically controlled means holds the escapement in its locked position but releases it to permit the clapper to strike the gong when the temperature in the place in which the alarm is located reaches a predetermined point. It automatically returns to the normal position to reset the escapement after the critical temperature drops.

A thermostatic metal suitable for a spring is coiled and the outer end is fixed to an ear stuck up from the plate. A pin is attached to the rod and extends angularly thereto. As the temperature rises, the coil will unwind or straighten out.

A double link is interposed between the pins and one of the ends of each link is slotted as shown. A second link is pivoted at one of its ends to the adjacent ends of the link and the other end of the spring presses against the link in the manner illustrated.

In this position the escapement may freely oscillate causing the alarm to be given by the clapper striking the gong. When the temperature drops the thermostatic element will automatically contract to its normal position and the other parts including the link work will again assume their normal position.

Where the alarm is installed in a place in which the gong might not be heard, it is desirable to also have the signal sent to a central office, and for that purpose an electrical arrangement is provided. The signal will be actuated when the terminal is engaged by the pin to close the circuit. The electrical signal



may be used either in conjunction with the mechanism for operating the escapement or else operated in combination with a thermostatic coil alone.

Endicott-Johnson Company Deeded Land

West Endicott, a suburb of Endicott, N. Y., and a residential community in which most of the residents are workers in the shoe factory of the Endicott-Johnson Company, has voted to deed the land on which the fire station is erected to the shoe company.

Several years ago, George F. Johnson, a member of the firm, presented the fire department with an American-LaFrance combination truck and he also erected a station in which to house the new apparatus. This year he built a brick and steel building, three stories with a basement at a cost of about $100,000, which will be presented to the district about the first of the year. The town also voted the necessary funds for the upkeep of the department.

Many Attend Inspection of Norristown, Pa.—Thirty-four companies attended the annual parade and inspection of the Norristown, Pa., fire department. It was estimated that 2,500 firemen were in the line of March.

Merry Christmas and a Happy New Year!

OUR friendly business relations over a long period of years with an ever-increasing number of fire chiefs everywhere make it a very great pleasure for us to wish each of you and your associates a very merry Christmas and a happy, successful and prosperous New Year.

Buffalo Fire Appliance Corp.

Main Office and Factory, Buffalo, N. Y.

This is What One User Thinks of "Pirsch" Built Apparatus

TOWN OF SKOWHEGAN
MAINE

CLYDE H SMITH
LESTER H PACKARD
JOSEPH BUTLER
SELECTMEN

G.H. Hopkins,
645 Congress St.,
Portland, Me.

My dear Mr. Hopkins:

This is to certify that combination pumper and hose truck which we purchased of the Peter Pirsch & Sons Company is more than satisfactory.

In workmanship, design, power and quality it is in a class by itself; comparing in every respect with those costing much more.

During the workout yesterday it pumped 812 gallons of water or 212 gallons more than specifications called for.

We have found you and the company you represent to be fair in all statements, never once over-estimating the true value of Peter Pirsch pumpers.

Respectfully yours,

Clyde H Smith

812 Gal. at 120 lbs. Pump Pressure with our **"Pirsch-Intermediate"** 600 Gallon Job. This is typical of "Pirsch" Performance. "Pirsch" Built Pumpers are also made in 500 Gal. and 750 Gal. Sizes with 25% Reserve Capacity.

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INDUSTRIAL PLANT PROTECTION

How Can Costly Fires Be Avoided*

By K. D. HAMILTON, Plant Engineer, and R. S. MOULTON, Assistant Secretary, National Fire Protection Association

IF through carelessness or through unforeseen circumstances, fire starts in your plant, will you be equipped and ready to fight it?

It is because the first three minutes of a fire are so important that the sprinkler system is so effective in fighting fires. If properly maintained, the sprinkler system will put out a fire before it gains headway.

Statistics covering a period of 30 years, as compiled by the National Fire Protection Association, indicate that in over 96% of all fires automatic sprinklers are successful, either in extinguishing the fire or in holding it in check until aid arrives. The 4% of failures are due for the most part to inadequate maintenance—such causes as closed valves and frozen systems.

A sprinkler system will reduce insurance rates, in many cases to the point of very substantial return on the investment.

Wet Pipe System Generally Used

The most generally adopted method of piping is the wet-pipe system. Water is kept under pressure at all times in the piping, throughout all buildings that are heated during the winter season. The water is controlled by an alarm valve which by means of a rotary gong or other apparatus transmits an alarm to a central station.

There are several types of sprinkler heads approved by the underwriters. Some operate at about 160 degrees Fahrenheit; others at 212 degrees; others, at 268 degrees; and others, at 360 degrees. It is a good practice to allow a margin of 50 to 60 degrees in choosing the type. The higher-temperature heads are used where excessive heat may develop—under skylights, near ventilators, over forges and driers, and in boiler-rooms and tempering rooms.

Use of Dry Pipe System

In places where it is impracticable to provide heat during the winter months, the dry-pipe system is used. Here the sprinkler pipe, as far as the main alarm valve, is filled with compressed air. When a head in this system discharges, the air pressure is released, thus allowing the water to flow like the wet-pipe equipment.

This system is admirable for storage sheds, warehouses, and unheated buildings.

Cold-weather valves are used on sprinkler systems to shut off portions of the piping which are subjected to low temperature. Care should be taken to see that these are opened again in the spring, when the outside temperature rises, so that protection may be afforded to that portion of the building which is covered by this particular valve.

Semiautomatic or manually operated systems are used primarily in buildings which are not employed for manufacturing purposes and where the full protection for sprinkler service is not desired. In this system, the water must be turned on by an attendant.

The outside water curtain, or system of piping with sprinkler heads located on the outside of the building, is very efficient protection for exposures to near-by structures. Usually it is manually controlled, and valves should be readily accessible.

Properly Instruct Factory Personnel

It is folly to go to the expense of providing the most modern type of sprinkler system, only to fail to educate the factory personnel as to how it should be operated. It is good practice to require of foremen and of superintendents an inspection of the sprinkler valves at least once every three months, so that they be kept familiar with how the equipment operates, how to shut off the water, and how to open drain valves. It is very easy to knock off a sprinkler head, thus wetting down several floors of stock unless some one happens to be near by who can operate the system. If one or two men working in the room know how to handle the situation, immediate results can be obtained.

The maintenance of a sprinkler system is one of the most important functions of the mechanical department. These are problems which tax the ingenuity of the plant engineer.

Sprinkler Systems Should be Inspected

All sprinkler systems should be thoroughly inspected at least once a month. Some portions should be checked over daily; others, at least once a week. One of the most serious causes of sprinkler-system failure is that of closed valves. Some one working on the system will close one of the main valves and fail to reopen it. These valves should be inspected at least once every day. It is good practice to seal them open, so that in case of repairs, the mechanic must break the seal before the water can be shut off.

Value of Supervisory Service

Those plants which are fortunate enough to be covered with a supervisory service practically eliminate the closed-valve difficulty. With this system, all valves and appurtenances are supervised by electrical contacts, which are checked up every day by the central station. This service will spot the closing of gate valves or of post indicators. It will reveal low water pressure, low air pressure, or water flow on the system itself. It is invaluable as a check on men working about the plant; and it insures constant supervision of the entire system by an outside company whose duty it is to keep their clients well informed on their equipment.

Some plants station a man near any valve closed during repairs, so that in case of fire he may turn on the water.

Testing Equipment to Insure Proper Operation

I have all our sprinkler equipment tested during the summer months, to insure proper operation. This covers a full-power test on the fire pump, also the operation of all water curtains and of similar equipment. All sprinkler systems, including both dry and wet valves on the interior of the building, are inspected by the insurance company at least twice a year, and are checked over once a week by the man who has charge of all inspection work.

See that no one hangs materials on sprinkler pipes. See that the heads themselves are not obstructed by means of boards, bags, or other material, which might prevent the water from gettting at the fire. Check up the temperature, especially in the summertime, to see that the skylights are not creating such heat as to cause the sprinklers to go off.

Maintain the buildings throughout the winter season at not less than 40 degrees Fahrenheit, to eliminate any possibility of freezing. This is especially true in out-of-the-way places. Such locations as storage rooms, under stairways, bridges, basements, and similar portions of the plant should be inspected. Elevator pent houses, shaftways, and dust houses present the same problem.

When a Sprinkler Head Freezes

Many times a sprinkler head will freeze, but will not let go until it has thawed out a sufficient amount to relieve the water pressure. Many maintenance men know what it is to clean up after a water flow, especially if the trouble occurred from sheer carelessness in allowing the temperature to drop so low that the heads froze during a cold night.

Keep a few extra sprinkler heads on hand, so that in case of a water flow it is possible immediately to renew the damaged heads and to put the water back on the system.

A plant close to Pittsburgh was equipped with sprinkler protection. During the night, when there was one man on duty, a fire occurred and was apparently extinguished by the sprinklers. The man investigated and turned the water off in order to avoid further water damage. Feeling that he had done good work, he then left the plant for the purpose of reporting the fire and getting some needed refreshment. While he was gone the fire rekindled and a few minutes later the whole building was a roaring furnace. If the fuse sprinkler heads had at once been replaced and if the water had been turned on in the system, this would not have occurred.

If moisture collects in a dry-pipe system and freezes, there may be trouble. In a leaky system, where air must be pumped in frequently, in especially cold climates, and particularly where comparatively moist air is taken into the compressor, some method of drying the air is advisable.

(*To be continued*)

* Reprinted from "Factory."

LACK OF UNIFORM TRAFFIC LAWS CAUSES DELAY IN FIRE RESPONSE

Motorists Puzzled by Individual Traffic Laws of City—Necessary That State or National Measures Be Taken on Problem

By GEORGE M. MANTOR,
Chief of Fire Department, Seattle, Wash.*

IT is fully realized that this is a most difficult subject to approach, in that no two cities have the same conditions to contend with relative to weather, streets, large or small auto registration, seasonal increase or decrease in tourist travel, and so forth, in getting apparatus to the fire ground. As an illustration of how awkward it may be to persons traveling down the Coast, a tourist starting at Seattle, Wash., in the congested areas, he will find centrally hung traffic signals with double bell, numerous confusing white pavement markers, restricted parking signs of various types and inscriptions and, on many corners, traffic officers. The tourist goes on to Portland where he travels blithely along following a broad yellow band on the pavement, only to meet a "cop" at the end of said band who informs him that he is going the wrong way on a one way street and the officer invites him to view the interior of the city bastile. On to San Francisco where there is only one street—where every corner rates a "copper" plus four to six signals, and where you grow cross-eyed trying to dodge the natives who know the ropes; thence to Los Angeles where (if you listen to the inhabitants) is installed the only traffic system in the world. So much for the layman and his traffic problems.

A tremendous increase in the number of motor vehicles in all cities has brought various problems to the fire fighting fraternity for solving. Promiscuous rushing to fires in automobiles; the crazy scramble to satisfy morbid curiosity and the apparent instinctive desire on the part of citizens to see and criticize (from a safe standpoint) the fire operations, has caused a situation that sooner or later will lead to disaster. I have no doubt that the experiences of our own Department relative to motorists chasing apparatus, crowding in between following rigs showing absolute indifference to street and apparatus sirens and warning signals, thus hampering the department seriously, are common to all, but what action to take to overcome all this is, frankly, beyond me.

We have traffic laws galore—officers and courts to enforce them—yet the evil is growing. These are not alone the only difficulties met with, for all of you have had the bitter experience of trying to advance hose lines into buildings where you were first seriously delayed by an auto parked on the hydrant; again delayed because rows of machines parked in front of a fire building; where your hose lines were hung up under the tires of cars, men were jerked backward down stairways and, in some cases, injured because of the sudden stoppage and, where ladders had to be elevated above the parked autos and carried across them to get into position for raising. Of what use then to purchase high-grade, high-speed apparatus and train men to make a fast get-away from the stations if your efforts are nullified by the delays just mentioned.

There is another angle to this condition that should be given careful thought and it is this: to furnish high-grade service necessarily means that there must be an increase in personnel to overcome these various difficulties, especially in advancing lines and in effecting life rescue through rapid, accurate ladder work. This addition to Department personnel and the heavy increased costs are a tax upon a large body of innocent citizens who should not justly be taxed because of a condition brought about by the careless, indifferent motorists.

In the endeavor to obtain more safety to both fire departments responding to alarms and to our citizens going about their daily work, many departments are adopting powerful sirens for warning purposes besides placing red lights on the front of apparatus as a further warning of the approach of fire fighting equipment, but the limit has practically been reached inasmuch as constant complaint is received from business houses, hotels, apartments, etc., of the interruption to business and loss of sleep caused by the howling of sirens and ringing of bells at street intersections.

It is suggested, for your consideration, that if there were established a national code or, if not national, at least a state code, designating a particular type of alarm to be used on both apparatus and at street intersections with the proper penalties attached for violation of rules governing the actions of both pedestrians and motorists when such signals are sounded, that at least a step forward would be taken.

Pending the formation of some such law or rules, the time has come, in my judgment, not for us to pass resolutions or to appoint committees, but to go back to our homes and demand, through the co-operation of the proper civic bodies and authorities, such drastic action as will prevent, or at least tend to reduce the serious losses of life and property caused by the actions of indifferent, unthinking motorists.

* Paper read before the convention of the Pacific Coast Association of Fire Chiefs, Fresno, Cal.

Analysis of New York City Fires

A comparative statement of 289 occupancies in which fires originated in the months of September, October and November, in the City of New York, with the same months in the year 1925, give some indication of the fire situation in the metropolis. Taking at random forty-four occupancies having the most fires the comparison looks like this:

	1925	1926
Apartments and flats	919	847
Auto garages	36	26
Autos in garages	112	133
Autos in streets	641	582
Buildings under construction	31	10
Buildings under demolition	31	18
Churches	135	101
*Clubs	6	10
Candy and cigar stores	36	21
Dry goods (retail)	14	9
Dwellings (private)	98	64
Elevated R. R. structures	39	36
Fuel bins	112	101
Furniture factories	5	8
Furriers (wholesale)	15	6
Groceries	40	36
Hospitals	4	0
Hotels	5	5
Junk dealers	9	5
Cloak and suit dealers	3	1
Cloak and suit manufacturers	19	4
Dress manufacturers	5	4
Ladies wear dealers	5	8
Lamp manufacturers	6	3
Laundries	18	9
Lighting fixtures	19	10
Lumber in open lots	21	22
Machine shops	11	2
Meat markets	16	6
Millinery (wholesale)	13	6
Motion picture shows	14	8
Offices	18	24
Outhouses	8	13
Printing plants	18	6
Restaurants	66	74
Rooming houses	52	80
Rubbish in cellars	333	254
Schools (private)	5	7
Tailors	24	15
Trolley cars	20	31
Unoccupied stores	89	116
Unoccupied lofts	23	17
Wagons in street	17	24
Watchmen's shanties	19	23
Wood carvers	10	6

* Refers to so-called "night clubs"

Kingston Man Convicted of Arson

The evidence of fire occurring in five different places in his home and place of business was too much to convince a jury of the innocence of a resident of Kingston, N. Y.

On December 27, 1925, the fire department on being called at 2:25 a. m., discovered two fires in the cellar, one behind the counter of a store that was part of the building, and one in each of two bed rooms.

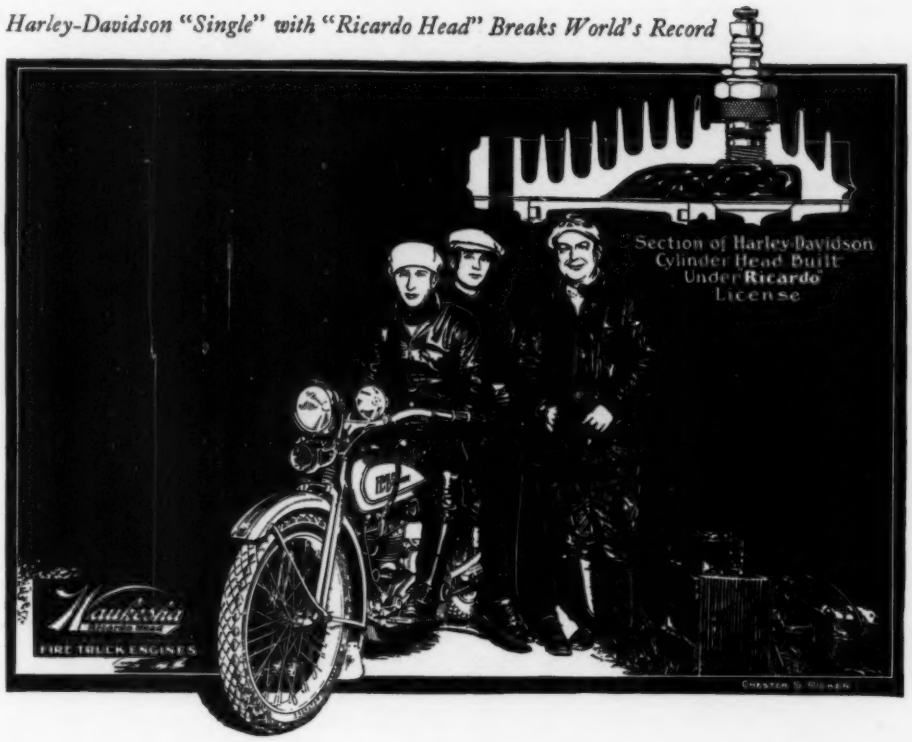
His defense was that he kept a small quantity of gasoline to kill bed bugs and that he had been using this remedy for the past fourteen years. He was awakened by smoke, and after hastily getting into his clothes, he rushed to the street and began shouting, "Fire." Finally some one across was awakened and asked to call up the fire department—previously, no one thought of looking for a fire alarm box.

The owner of the building was convicted to serve from three and one-half to seven years.

Washington Has $240,000 Forest Fire Loss—During the 1926 season, the forest fire loss in the state of Washington amounted to $240,476. There were 1,151 fires and 247,621 acres of forests were destroyed.

Boston, Mass., Hampered by Railroad—Comm. Eugene C. Hultman of Boston, Mass., complained to Mayor Nichols that the railroads were in the habit of leaving long strings of empty freight cars on the tracks thus hampering the firemen in their work.

Harley-Davidson "Single" with "Ricardo Head" Breaks World's Record



Engines with Power

For over three years all Waukesha engines have had "Ricardo Heads". They develop more power in proportion to their size and run cooler than any other "Ell" head engine. That is why they have always passed Underwriter's Twelve Hour Tests with ease. Four six cylinder models are available, suitable for capacities of 250 to 750 gallons per minute.

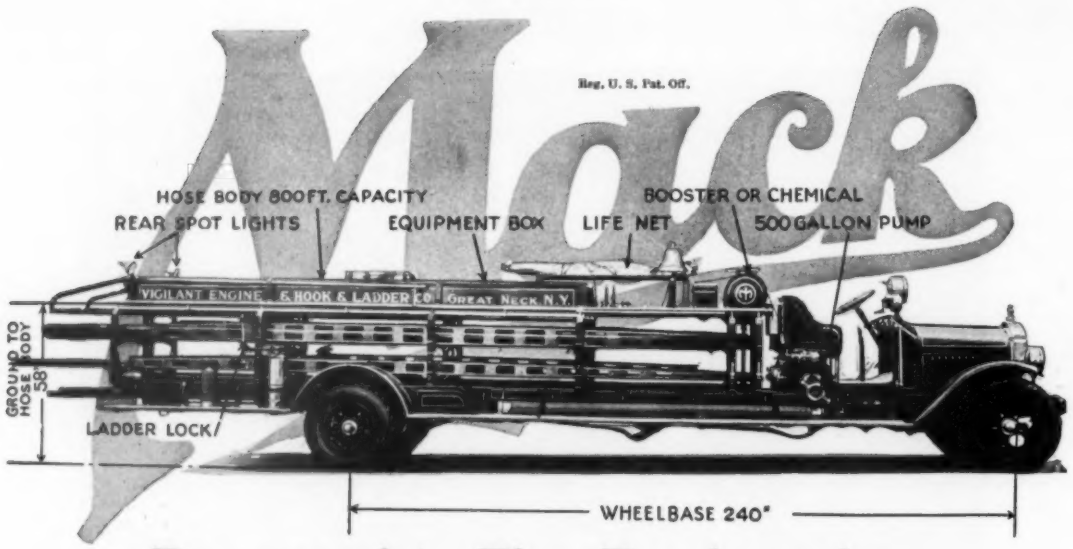
Use of a "Ricardo Head" on the above motorcycle during a seven day non-stop reliability run under American Motorcycle Association Sanction proved three things which characterize all Waukesha "Ricardo Head" engines: ***Power—Economy—Cool Running.*** *The "Single" Harley-Davidson is so powerful that a Ford to equal it in performance would have to develop 65 H.P.—in economy it averaged* ***124.8 miles per gallon*** *for seven days and although air cooled never got hot on this non-stop run. Write for "Ricardo Head" booklet telling more about them.*

FIRE EQUIPMENT DIVISION

WAUKESHA MOTOR COMPANY

Waukesha Wisconsin

Eastern Sales Office Aeolian Building, 33 W. 42nd Street New York City



Progressive Fire Engineering

THE Mack Quadruple Combination, shown above, is a practical unit especially designed for communities that must depend for protection on two or possibly three machines. No matter whether you already have a pumping engine, this Mack Quadruple Combination Job not only gives you a full equipment of ladders but provides additional hose-carrying capacity and an auxiliary pump that will prove invaluable during an emergency. All of which additional protection you can have at a small extra cost.

Note the ladders, 218 feet of them, mounted in double bank in order to keep a low gravity center. Also note the hose body, mounted on top where it is free from ladder interference, and within easy reach from the running boards.

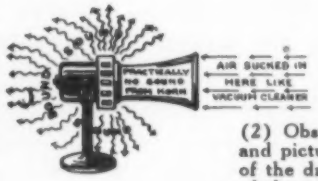
The full line of Mack Fire Apparatus includes motors of either 4 or 6 cylinders and pumping engines with capacities ranging from 350 to 1000 gallons per minute. Send today for complete description and information.

MACK TRUCKS, INC.
INTERNATIONAL MOTOR COMPANY
25 Broadway New York City

One hundred and four direct MACK factory branches operate under the titles of: "MACK-INTERNATIONAL MOTOR TRUCK CORPORATION", "MACK MOTOR TRUCK COMPANY", or "MACK TRUCKS OF CANADA, LTD."

WHY SIRACODE IS THE SEARCHLIGHT OF SOUND!

COPYRIGHT



A Siren is Pictured Here

(1) Note that the so called "Horn" merely serves as an intake for air, emitting practically no sound! For this reason many manufacturers omit it completely on certain models. As a matter of fact it is more of a detriment than an asset.

(2) Observe how the sound is ejected through a number of port holes in all directions, and picture, if you can, what a large percentage of it is forced backward into the ears of the driver, and over the road already travelled, this increasing greatly with the speed of the vehicle! Do you wonder why they don't clear the way ahead?

Now Study The Construction of a Siracode

(1) Note that the rotor and stator are Parabolic, causing the sound waves to be forcefully projected forward in the line of travel where they are wanted and needed.

(2) Observe the scientifically shaped, and correctly proportioned deflector, which also greatly intensifies the sound.

(3) The specially constructed motors used for SIRACODE consume about one third the amperage of a siren of similar volume, in short.

SIREN=

LAMP POST

SIRACODE

SEARCHLIGHT

So Why Put a Lamp Post on Your Car?

SIRACODE SIGNAL CORPORATION

Formerly Heath Engineering Laboratories, 354 Pine St., San Francisco, Calif.

New Rules of New York Fire Department

(*Continued from page* 1305)

35. Place chairs or seats on the apparatus floor, or in front of quarters, other than one chair at the house-watch desk, and chairs in sitting rooms situated at the rear of apparatus floor.
36. Sleep or cook on the apparatus floor or in the cellar of quarters.
37. Occupy any bed after 7:30 A. M. or before 8:30 P. M. except in cases of sudden illness or when directed by medical authority, or when fatigue from duty during the temporary suspension of the platoon system makes it necessary.
38. Disturb, unnecessarily, the sleep of those in the dormitory.
39. Neglect to thoroughly familiarize themselves with these rules and every amendment thereto, as well as with instructions affecting the operations of the Department.
40. Trade or substitute a tour of duty with another member without written permission from the Chief of Department.
41. With intention to deceive, make a false statement or report.
42. Damage Department property.
43. Handle carelessly or recklessly any Department apparatus.
44. Congregate outside of quarters, at the time scheduled for change of platoons.

SEC. 115. In matters of general conduct, not within the scope of Department rules, members shall be governed by the ordinary rules of good behaviour observed by law-abiding and self-respecting citizens, and shall have charges preferred against them for conduct tending to bring reproach or reflection upon the Department.

SEC. 116. Members desiring to resign shall notify the commanding officer of their unit at least twenty-four hours in advance of the morning roll call of the day on which the resignation is to become effective.

Upon receipt of such notice the commanding officer shall promptly notify, by telephone, the Chief of Battalion and Deputy Chief on duty of the intended resignation and acquaint them with all incidental information in connection therewith, particularly whether or not charges are pending.

If the member intending to resign desires to leave without waiting for the expiration of twenty-four hours, the Deputy Chief may permit him to do so after he has satisfied himself that no charges are pending and that the member concerned has submitted a signed resignation and an application for a twenty-four hour special leave of absence, and has delivered to his commanding officer his official badge and insignia.

When charges are pending, the resignation and application for leave shall be forwarded, disapproved, with reasons.

SEC. 117. Applications for retirement shall not be forwarded until members shall have served the time specified by law.

SEC. 118. Applications for transfers in the uniformed force shall be made over the signatures of applicants, stating truly and fully the reasons therefor. They shall then be forwarded, with the approval or disapproval of intermediate officers, with reasons.

Applications not granted by December 31st in each year shall be considered void.

SEC. 119. Members shall not, directly or indirectly, solicit the influence or intercession of any person or persons with the Fire Commissioner to effect their transfers.

SEC. 120. Applications for promotion shall be made over the signature of applicants, who shall state the date of appointment on probation and length of service in the various positions in the Department. These applications shall be addressed to the Fire Commissioner, and shall be forwarded, through regular channels, with endorsements.

The applications shall also state whether the applicants have served in the Army, Navy, or Marine Corps during the Spanish-American, or World War, and if so, whether they received honorable discharges therefrom. They shall also specify the regiment or vessel with which they were identified, the date of entry into such service, and the date of discharge. If any commendations or honors were received in such service, full particulars shall be included concerning them in the applications, and a statement to the effect that credit (where credit is allowed) has, or has not, been given therefor in a promotion examination.

Candidates shall also comply with such requirements concerning applications as may be promulgated by the Municipal Civil Service Commission.

SEC. 121. Eligibility for promotion shall be determined as follows:

Fireman of first grade and Engineer of Steamer, to the rank of Lieutenant.
Lieutenant to rank of Captain.
Captain to rank of Chief of Battalion.
Chief of Battalion to rank of Deputy Chief of Department.
Deputy Chief of Department to rank of Chief of Department.

SEC. 122. Firemen first grade designated as chauffeurs in engine companies may, between May 1st and October 1st of each year, apply for instruction under the direction of the Supervising Engineer in the operation and care of motors and pumps. Applications, addressed to the Chief of Department, with endorsements, shall be forwarded on the 15th of each month in the period named.

SEC. 123. All books of rules shall be kept up to date. It shall be the duty of every member to make a copy of every order hereafter issued which changes or affects these rules and regulations, and attach such to his book.

SEC. 124. When leaving quarters (except upon change of tour, or on fire duty) members shall report to the officer in command, who shall enter, or cause to be entered, in the Company Journal, a complete statement giving the exact time of leaving, the purpose of or reason for the proposed absence, the precise nature of business (if the proposed absence is for the transaction of Department business), and, upon return to quarters, the exact time of return.

If a member exceeds the time allowed for any leave of absence, he shall be required to fill out, in the presence of his commanding officer and the house watchman, a form setting forth his reasons for being absent without leave.

An entry shall also be made in the Company Journal of this action.

SEC. 125. The term "light duty" for members below the rank of Lieutenant shall be constructed to mean housewatch duty, messenger duty, the performance of house cleaning duties and detail duty to places of public assembly.

Members on light duty shall be governed by the regular platoon schedule when on duty with their respective unit.

(*To be continued*)

Fire Department Chaplain Promoted

For the first time in the history of any New York Municipal Department, New York, a Chaplain upon being promoted from the rank of Curate to Pastor, has been allowed to retain his Chaplaincy. This rare distinction has been conferred upon the Rev. Patrick F. O'Connor, one of the Catholic chaplains of the New York Fire Department, ranking as Battalion Chief, with a salary of $1,800 a year.

Rev. Patrick F. O'Connor, N. Y. F. D. Chaplain.

Father O'Connor has just been signally honored by Cardinal Hayes who, while elevating him to a pastorate, has deviated from the hitherto set rule and has allowed him to remain in his fire department post. This was done out of appreciation of the splendid work Father O'Connor has been doing among the firemen and also as a personal tribute to the priest. Although long since eligible for promotion, Father O'Connor nevertheless told his Diocesan superiors that he would prefer to remain with the firemen than to become a Pastor and leave them.

Cardinal Hayes after considerable deliberation has accomplished both purposes—he has left the chaplain with the firemen and has promoted him as well. The fire department in New York has two Protestant Chaplains, two Catholic Chaplains and one Jewish Chaplain. Besides attending fires, they do welfare work among the firemen and their families.

Father O'Connor's promotion comes to him on the ninth anniversary of his appointment as a Chaplain. He was appointed Chaplain on Christmas Day, 1917, by the then Fire Commissioner Robert Adamson.

W. J. DALY.

Admiral Beatty Turns Fire-Fighter—Earl Beatty, Admiral of the Fleet, of Great Britain, directed the fire-fighters in fighting a blaze on the roof of a house nearby. Lady Beatty chided him about being the "boy on the burning deck."

Dallas, Tex., Has Two Reel Fire Film—Chief Myers of Dallas, Tex., has prepared a two reel motion picture film showing the common causes of fire, and some of the big Dallas fires that have developed from these causes. It has been shown in all the local theatres and the city parks during summer; it has aroused a great deal of interest.

Chief Sennott Talks on New Orleans

A radio talk on the impressions of the New Orleans fire department as observed at the convention of the International Association of Fire Chiefs, was delivered by Chief Daniel F. Sennott of the Boston Fire Department from Station WEEI. His talk, in part, is as follows:

Daniel F. Sennott, Boston, Mass.

"One of the things that impressed me as a New England Fire Chief is that fire fighting in New Orleans is a much simpler and less hazardous proposition than in New England due to the absence of cellars, subcellars and basements which present some of the greatest difficulties to fire departments in metropolitan cities. New Orleans is located on a flat plain with no hills and the firemen there do not have any real cold weather, snow or ice to contend with. The majority of the buildings there are of stone and masonry construction — even the older buildings erected in the days of the old French and Spanish settlements.

"One of the principal factors that the chief of the New Orleans fire department must contend with is the dock situation. The wharves along the river front stretch for fourteen miles, and a great many fires occur there due to the great amount of shipping handled from that port. It is the second largest seaport of the United States and the gateway of the Mississippi river.

"The fireboats are under the control of the Dock Commission. Of course, at fires, they are subject to the orders of the chief of the department.

"Another condition that must be a source of worry to the chief of New Orleans, is that the city is remote from large cities, the nearest being Baton Rouge, three hours ride by train.

"Another thing that I observed, while not being connected with fire department affairs, is the fact that the city is below the level of the Mississippi river and the river is held back by enormous levees built all around the city. This makes it impossible to inter the dead in the ground, and makes it necessary to use all sorts of small tombs and mausoleums. The poorer class in the city cannot afford such an expense, and must resort to what is termed as the "Public Wall."

"We were particularly impressed with the well-known 'Southern Hospitality,' and every possible means was taken to make our stay in New Orleans a pleasant one. This was particularly true as regards the ladies acccompanying the chiefs to the convention. While the chiefs' time was taken up mainly with the business matters of the convention, the Women's Committee under the leadership of Mrs. John M. Evans, wife of Chief Evans of New Orleans, spared no pains or expense in entertaining the visiting ladies. They were provided with motor trips to points of interest, theatre parties, banquets and so forth, and every one leaving the city was loud in the praise and appreciation of the treatment accorded them."

Chief Sennott went on and described the various stops made before the New England chiefs returned to their home towns.

HARRY BELKNAP.

Few People Know How to Send in Alarms

A survey conducted by the chamber of commerce of Syracuse, N. Y., has been made public by the National Safety Council. Approximately 7,500 home inspection blanks were distributed and returned to the safety division of the Chamber of Commerce and showed that few people knew how to turn in a fire alarm. The interesting points of the survey follow:

5,967 knew location of nearest fire alarm box, while 1,597 did not know.

2,858 knew how to turn in a fire alarm, while 4,309 did not.

709 stated that there was an accumulation of rubbish and other flammable material in the cellar or basement of their residences, while 6,386 denied that such a condition existed.

892 stated that their yards contained flammable rubbish, while 6,323 answered "No."

6,813 stated that their stairs, hall closets and spaces under the stairs were clean of rubbish, 471 acknowledged that these spaces were not kept clean.

547 stated that fire escape landings or steps were not kept clear, while 6,465 stated that the fire escapes were clear.

5,370 stated that walls behind stoves and floors beneath them were protected with metal, while 2,553 stated that their walls were not protected with metal.

983 possessed gas appliances connected by rubber tubing, while 5,991 did not.

1,048 kept gasoline on premises, while 5,601 did not.

3,363 had ashes properly disposed of but 2,882 did not.

1,700 possessed screens for front of open fire-places, 5,304 did not.

Neglect Blamed for Fire Loss Increase

The growing menace of fire on the American farm is pointed out in the nature of a general warning, issued by the Agriculture Committee of the National Fire Council, sponsored by the Insurance Department of the Chamber of Commerce of the United States.

Farm fire losses in 1925, the committee survey discloses, showed an increase of 65 per cent over fire losses in 1920, the annual total now running approximately $150,000,000. Over a period of years up to 1923 lightning was the chief cause of farm fires, being responsible for 13.5 per cent of the total Then followed in order defective chimneys and flues, thirteen per cent, and sparks on roofs, nearly seven per cent.

In 1924 defective flues headed the list of fire causes being responsible for fourteen per cent of the losses that year. Sparks on roofs increased to ten per cent.. The conclusion is drawn from these percentages that maintenance has been neglected, old roofs have become a source of danger and chimneys and flues have not been inspected and repaired.

The Agriculture Committee is planning to give the farmers the benefit of the experience of the leading fire protection and fire prevention engineers of the country eliminating fire hazards and assisting them in protecting adequately their property. Subcommittes are now being appointed to study various phases of the problem.

CORRESPONDENCE

Misuse of Carbon Tetrachloride Extinguishers

To the Editor:

At a recent inspection of the one quart carbon tetrachloride fire extinguishers carried on the motor vehicles of a large concern. about ninety per cent of the extinguishers were found to be unserviceable.

An investigation was made and it was found that this concern was being supplied with extinguishers by a storekeeper who had in stock hundreds of old second-hand carbon tetrachloride fire extinguishers, many of which were completely empty, and many more were found to be partially empty.

I always recommend that carbon tetrachloride extinguishers be condemned when found standing empty. Many people are "from Missouri" and it is necessary to show such people that it is not all right to fill old second-hand fire extinguishers of the carbon tetrachloride type with any old brand of "bootleg fluid". I think it is time to call their attention to an article in FIRE ENGINEERING. Believe me, such articles help and always make an impression.

Yours very truly,
THE INSPECTOR,
Manila, P. I.

Death Due to Delay in Telephone Response—Two small children were burned to death in a fire that destroyed a bungalow in Middletown, N. J. A telephone call for assistance that was sent to the fire house went unheeded as there was no one in the station to answer the phone. An hour after the fire started, the apparatus responded.

Minister Condemns Lincoln, Neb., Stations—In his regular Sunday sermon, a Lincoln, Neb., minister said, "As an eye witness I learned that there are only two fire stations in Lincoln that are fit places in which to house human beings." He spoke before a body of firemen that attended as guests.

Medford, Mass., Firemen Receive Pay Increase—The board of aldermen of Medford, Mass., granted pay increases to the fire department—$500 for the chief, $350 for deputy chiefs, $250 for captains, $200 for lieutenants and 175 for privates.

"Shuredry" Salvage Covers

COST LESS—
WEIGH LESS—
MORE EASILY HANDLED

Chief Boyd, of the Knoxville, Tenn., Fire Department, has used "Shuredry" Salvage Covers for eight years. He says: "They are *waterproof, not affected by the weather, easy to handle, and altogether the most satisfactory covers we have ever used.*"

They do not freeze in winter, nor become tacky in summer. They are not subject to spontaneous combustion, nor to cracking where folded. One man can carry four up a ladder at one time.

Made in standard sizes. Write our nearest plant for samples and prices.

FULTON BAG & COTTON MILLS
Manufacturers since 1870
Atlanta, New Orleans, Brooklyn, St. Louis, Dallas, Minneapolis

BADGES
of Every Description

QUALITY GUARANTEED

Right Prices
Prompt Deliveries

We Also Make the Durable
"ROSS" HELMET

Our latest catalogue and price list will gladly be sent on request.

EVERSON-ROSS CO., INC.
88 Chambers St., New York

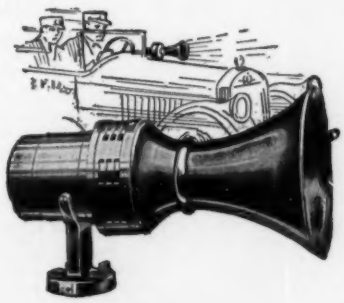
Successful Since Sixty-Eight

The Worcester Fire Alarm Signal says "Fire." Its call is far-reaching and distinct, and because of the mechanical perfection in design and workmanship, harsh, objectionable screeches are eliminated.

This alarm has been perfected by many years of manufacturing experience, and is giving complete satisfaction in countless cities and towns.

Write for Catalog R-51.

Union Water Meter Co.
WORCESTER, MASS.
New York Office: 50 Church St.
Phila. Office: 539 Real Estate Trust Bldg.



The Sterling No. 12

This is the powerful electrical Siren used by leading fire Chiefs. It is ideal for all fire apparatus and other vehicles requiring a commanding signal.

We will send you a Sterling No. 12 complete with 10 feet of dual cable, for free examination and trial. You may return it if not fully satisfied.

Price complete.....$40.00

Sterling Siren Fire Alarm Co., Inc.
61 Allen St. Rochester, N. Y.

MATHEWS
(Reg. U. S. Pat. Off.)
FIRE HYDRANTS
for
DOMESTIC
and
HIGH PRESSURE
Service

Note—

The positive waste valve.

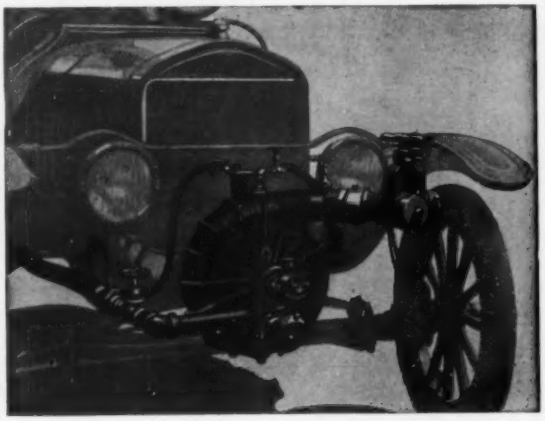
All operating threads are above the stuffing box.

No toggles, small screws or other small, quick-wearing parts.

All moving parts are bronze or bronze bushed.

The outside casing permits replacing a two-way standpipe with a steamer and two-way standpipe without digging up the ground.

Valves and Boxes
Cast Iron Pipe and Fittings
R. D. WOOD & CO.
Phila., Pa.



FIRE PROTECTION
At Low Cost

Here's the evidence—

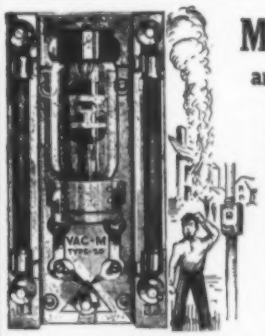
VERMONTVILLE, Mich.

"Gentlemen:
We are writing to inform you we are very much pleased with our Barton Fire Pump mounted on Reo Fire Truck which was purchased from you a few weeks ago. We have attended four fires and paid for the apparatus more than three times over at our first fire.

Very truly yours,
VANCE F. BARBER,
Fire Chief."

Write for complete details.

AMERICAN STEAM PUMP CO.
Battle Creek, Michigan



Men and Apparatus
are Worthless If the Alarm

of fire does not reach your department. Your fire alarm system is therefore the most important part of all your equipment for the protection of life and property.
Every precaution must therefore be made to insure the never failing operation of your delicate fire alarm instruments.
Why not protect them from the the dangers of lightning and short circuits with VAC-M Arresters? Chiefs all over the country use them. Every alarm system should have them. Has yours?

Full Details on Request

THE NATIONAL ELECTRIC SPECIALTY COMPANY
TOLEDO .... OHIO.

Eastman
Nozzles and Deluge Sets
Are Designed by Engineers

who, for over thirty years, have specialized in equipment for producing superior fire-fighting streams in all sizes unsurpassed for solidity, distance and effectiveness, and safely handled under all pressures.

Write for Catalog

Samuel Eastman Co.
Concord, N. H.

Chief James C. Mooney of the City of Watertown, South Dakota Fire Dept. writes:

"We have some of your Dontfear Masks and like them fine."

Much Better Than We Expected is the verdict of those using the

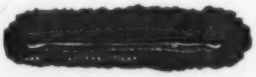
DONTFEAR
Smoke and Fume Respirator
Send For Descriptive Catalogue

No Sponge. Price $5. With Airtight Goggles $5.60

Gibbs-Wahlert Mask Co.
388 Jay St., Opp. Fire H'q'trs Brooklyn, N. Y.

BI-LATERAL FIRE HOSE

THE BI-LATERAL FIRE HOSE CO.
230 West Randolph St., Chicago, Ill.



If a hose salesman can convince you by any argument that his three-year guarantee will result in just as good an adjustment, should one be necessary, as a guarantee for six years, from a reliable company, certainly if you have a goat, he's got it.

BI-LATERAL FIRE HOSE is guaranteed six (6) years.

PROPOSED IMPROVEMENTS

Pearl River, Rockland Co., N. Y.—Fire Commissioners making plans for installation of a new fire alarm system in this city.

Delanson, Schenectady Co., N. Y.—The Delanson Fire Co. raising funds for the purchase of a motor apparatus.

Gainseville, Wyoming Co., N. Y.—At a special election held recently it was voted in favor of the purchase of a new piece of apparatus for the fire department.

Roscoe, Washington Co., Penn. Fire department raising funds for the purchase of new equipment for the department.

Passaic, Passaic Co., N. J.—Hook & Ladder Co. No. 1 has asked the City Council to purchase new apparatus for the company. Daniel Baziro, Secty, of the company.

Iselin, Middlesex Co., N. J.—A movement has been started by the people of the village for the purchase of additional fire apparatus.

East Haven, New Haven Co., Conn.—The East End Volunteer Fire Dept., Inc., is planning to purchase a new fire truck.

Harrington, Kent Co., Del.—George B. Potter was recently elected chief of the Harrington Fire Co.

Ocala, Marion Co., Fla.—It is being urged that the city purchase additional fire apparatus and equipment for the fire department.

La Grange Park (Mail La Grange), Cook Co., Ill.—Village Board considering the purchase of a new fire siren.

Indianapolis, Marion Co., Ind.—New fire apparatus to cost approximately $100,000 will be purchased in the near future. Jesse Hutsell, Chief of Fire Dept.

Shiner, Lavaca Co., Tex.—New fire station to be erected at cost of $25,000.

Strasburg, Shenandoah Co., Va.—Citizens Fire Co. recently elected D. W. Hupp, Chief.

Green Lake, Green Lake Co., Wis.—Resolution passed by the village board authorizing the immediate organization of a fire company.

Sharon Springs, Schoharie Co., N. Y.—Village voted on a $10,000 bond issue Dec. 10, for the purchase of a piece of apparatus for the fire department.

Mineola, Nassau Co., N. Y.—Trustees to purchase a new fire alarm siren for the new municipal building where fire department will have headquarters. A new Stutz combination hose and chemical car was purchased.

Birdville, Allegheny Co., Penn.—After recent large fire city requested Harrison Township Commissioners to provide fire protection considering the purchase of two small chemical cars after the first of the year.

Charleroi, Washington Co., Penn.—Council passed a motion for the purchase of 30 working uniforms for the members of the fire department, to be of waterproof construction. Henry J. Lowstuter, Chief.

Hawthorne, Los Angeles Co., Calif.—The purchase of new equipment for the fire department is being considered.

Ft. Wayne, Allen Co., Ind.—Two new fire stations to be erected in the near future.

Metuchen, Middlesex Co., N. J.—Formation of a borough fire department being considered. Estimated appropriation required from $20,000 to $40,000.

Westwood, Hamilton Co., Ohio—It is being urged that additional fire apparatus be purchased.

Eyota, Olmsted Co., Minn.—Fire department discussed the purchase of a siren to be operated from telephone switchboard. James Jones was elected chief and Wm. W. Lovelace, president of the fire department.

Homer, Calhoun Co., Mich.—Considering raising funds for the purchase of a piece of apparatus to be stationed here and for use in rural districts.

West Springfield, Hampden Co., Mass.—The Mittineague fire station has been condemned. Plans to be made for the erection of a new station in the near future.

Newark, Alameda Co., Calif.—Funds being raised by fire department for the purchase of uniforms. Louis Ruschin, Chief of the Vol. Fire Dept.

Kittanning, Armstrong Co., Penn.—Plans to be made for improving fire alarm in city.

For Sale
Fire Apparatus

One Brockaway Motor Truck and one G. M. C. Motor Truck. These trucks have been in use by the Fire Dept. of the Village of Rockville Centre, and are now offered for sale to the highest bidder, having been replaced by more modern apparatus. Bids should be addressed to the Board of Trustees, Village of Rockville Centre, and delivered to the Village Office on or before the next meeting of the Board to be held on December 15, 1926.
For further information get in touch with Mr. O. F. Conger, Chief of the Fire Dept., Rockville Centre, N. Y.

12-10, 25, 1-12.

Position Wanted
By Fireman

Reliable fireman with eight years actual experience, which includes operating American LaFrance apparatus desires steady position in some city. Can furnish best references.

Address: Box 166, Quincy, Florida 12-25.

FOR SALE
Fire Apparatus

One Seagrave, 4 Wheel Tractor, City Service Hook and Ladder Truck, equipped with 1 50 ft. Extension Ladder and other portable Ladders, including miscellaneous equipment. Address: Box 129, % FIRE ENGINEERING, 225 W. 34th St., N. Y. C.

11-25, 10, 25.

When
in the market

for equipment or supplies make your wants known through Fire Engineering. More bidders mean more competition and better satisfaction.

CONVENTION DATES

Jan. 11-13, 1927—ILLINOIS FIREMEN'S ASSOCIATION. 39th Annual Convention, Quincy, Ill. Secretary, Roy W. Alsip, Champaign, Ill.
Jan. 18-20, 1927—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION, 45th Annual Convention, Columbus, Neb. Secretary, H. A. Webbert, Kearney.
Jan. 29, 1927—BERKS COUNTY FIREMEN'S ASSOCIATION. Meeting at Reading, Pa., with annual banquet.
June 21-23, 1927—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 5th Annual Convention, Congress Hotel, Portland, Me., Secretary, Chief John W. O'Hearn, Watertown, Mass. For reservations address Geo. F. Cobb, Traffic Manager, 774 Albany Street, Boston, Mass.
Aug. 14-16, 1927—NEW YORK STATE PERMANENT FIREMEN'S ASSOCIATION. Annual convention, Elmira, N. Y. Frank A. Emden, secretary-treasurer, 1200 Lenox Ave., Utica, N. Y.
Sept. 1927—KANSAS STATE FIRE CHIEFS AND FIREMEN'S ASSOCIATIONS. 11th and 40th Annual Conventions, Kansas City, Kan. Secretary, Chief K. D. Doyle, Wamego, Kan.
Sept. 7-8, 1927—MISSOURI STATE FIRE CHIEFS' ASSOCIATION. 5th Annual Convention, Kirksville, Mo. Secretary, District Chief J. T. Lynch, Kansas City, Mo.
Sept. 7-8, 1927—MISSOURI ASSOCIATION OF FIRE FIGHTERS. 2d Annual Convention, Kirksville, Mo. Secretary, M. J. Mulvoy, 3500 S. Grand Boulevard, St. Louis, Mo.

Chimnee-Sweep Consolidates with K. S. Co.

The enlargement of the business of the Chimnee-Sweep Company has brought about a consolidation with the Kilsoot Chemical Company. E. L. Geldert is president and treasurer of the Kilsoot Chemical Company, and F. E. Buckman, who is president of the Chimnee-Sweep Company, is vice-president of the Kilsoot Chemical Company.

Matches Prohibited at Oil Wells

The prohibiting of the use of "strike anywhere" matches about oil wells, tanks and traps has been enforced by one of the major California oil companies, and as a result, the company has a notable low fire loss record. The Bureau of Mines of the U. S. Department of Commerce warns against the practice of smoking, carrying matches and lights about such territory.

Not only are kerosene lanterns hazardous because of their liability to tip over, but the light from these lanterns is very much inferior to that of the electric flashlights. Many companies, have for years furnished electric lanterns to the men who have occasion to use portable lights, and immediately there was a reduction in the number of fires.

Riker's Island, Serious Fire Hazard

The seriousness of the fire hazards at Riker's Island, within the limits of New York city, was pointed out to the State Commission on Prisons by Frank E. Wade, commissioner.

He called attention to the fact that if a fire started in the present combustible buildings, that most of the buildings and the standpipe would be destroyed. There is some protection from the fire alarm system, fireproof doors and from the fire department manned by the inmates. No fire engine is kept on the island, and when a new dock and ferry are completed, it will be possible to ferry fire apparatus over from 134th street to the island. The present water pressure is thirty-four pounds and it was stated that it would likely fail when needed. The pressure drops to seventeen pounds when the hydrant is opened.

The island, which is in the East River, originally contained about sixty-three acres. The city has been using it for a deposit for ashes and refuse, and at the present time the island has an area of 640 acres. The buildings on the island are of a temporary nature. At first it was used to transfer the surplus of workhouse prisoners and later it was used for segregation and the treatment of drug addicts. Riker's Island has been selected for the construction of a new county penitentiary and the city authorities have decided to remove the old prison from Welfare Island to the new building, when completed.

American Nozzle Appoint Sales Agents—The American Nozzle Company has appointed the American-LaFrance to represent them in the United States and Canada.

Hickman, Ky., Has Fire Department—A part paid fire department has been established in Hickman, Ky. Formerly there was a volunteer department.

Long Beach, Cal., May Select Outside Chief—The city manager of Long Beach, Cal., stated he would select a chief soon to succeed Chief Craw, and that the new chief would be responsible to him. He is trying to make the selection from candidates outside of the department.

FALSE ALARMS

THE FIREMAN—ACCORDING TO SOME PEOPLE

"Whatcha doin' for a livin', Joe?"

"Oh, nothin' much. Just loafin' around!"

"Well, that's news! I didn't know you were in the fire department."

WHAT IS IT?

While Science is continually proving new things, Nature steps in and often upsets such theories. Recently a news item mentioned that a fire had occurred in the plant of a fireproofing company and that "$30,000 of finished product had been destroyed."—*Wall Street Journal.*

EXPLICIT DIRECTIONS

Some of the men were working on the roof of an adjoining building directing hose streams from this vantage point into the burning structure. The heat became unbearable and the captain fearing the momentary collapse of the wall ordered the men from the roof.

One of the firemen on the street overheard the order and he shouted to the ones on the roof, "Hey, Mike! Don't come down on that ladder on the North corner. I took it away."

FORMALITY REQUIRED

The firemen of Huntington, Conn., in responding to a hurry call were requested to wipe their feet before entering the house. This formality out of the way, they were informed that the fire occurred the day before, but that the family had become alarmed lest some lingering traces in the chimney might start another blaze.

OUR UNCROWNED HEROES

There are uncrowned heroes about us;
We meet them each day on the street,
Sometimes we greet them quite friendly,
Sometimes we fail, even, to speak.

In the mad rush of life as we live it
For the sake of just trying to live,
We forget there are others who give it,
That others about them might live.

They are all on the job every minute,
The employed or the "just volunteer;"
Each listens, alert and defensive,
The sound of the fire bell to hear.

And when the old bell from the tower
Booms out a midnight alarm,
The next sound you hear is our laddies
On their way to save some one from harm.

They in slumber may be sweetly dreaming,
But they wait not to finish their nap,
But away with their sirens' shrill screaming,
They are off 'ere the bell's second tap.

Let the weather be hottest in summer,
Or the coldest in winter we know,
With their socks freezing stiff in their boot legs,
Or their boots buried knee deep in snow.

They are ready to fight for our people,
To their last ounce of strength, every one,
Till the fire demon of ruin is vanquished,
No matter how often it comes.

And then when the roll book is opened,
And each answers "Here" to his name,
There is scarcely anyone present
To praise them, or even to blame.

They alone know the hurt of the fire burns,
They alone know the risk they have run,
To rescue some loved one from danger,
Or save something that someone has earned.

But wait, there are others to mention,
Just "Mothers of men" all about,
Who are waiting so eager and anxious,
To hear the old fire bell tap "Out."

And we know that their prayers were rising
To the dear, heavenly Father on high,
To protect and to keep the brave boys
That for others they are so willing to die.

So let's say a good word for our laddies;
Let's praise them while with us they live,
Don't wait 'till in sorrow and sadness,
We speak praises that now we should give.

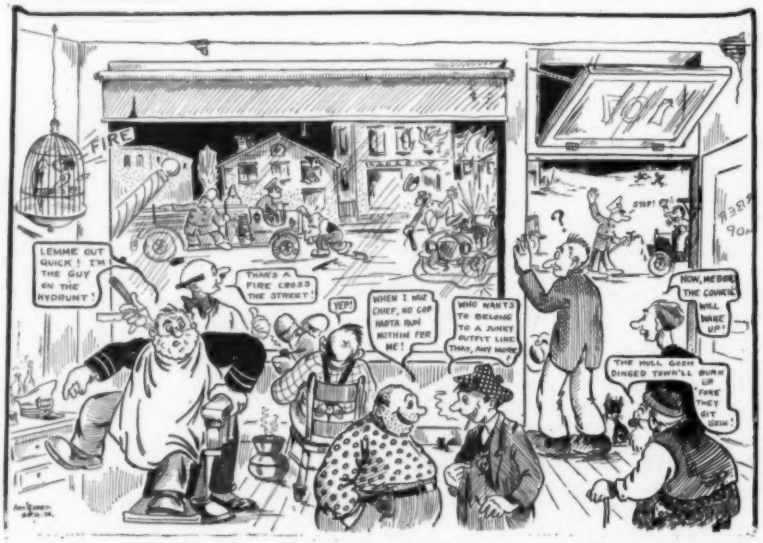
By the Mother of a fireman.
(Mrs.) C. L. Woodson.

WHY THE HURRY!

"Keep inside those fire lines, there!" shouted the policeman to the one who was advancing with the show of authority.

"But I'm a reporter."

"Well if you want to know anything about this fire, read tomorrow's paper."


FIRE
LEMME OUT QUICK! I'M THE GUY ON THE HYDRUNT!
THAR'S A FIRE CROSS THE STREET!
YEP!
WHEN I WAS CHIEF, NO COP HADTA RUN NOTHIN FER ME!
WHO WANTS TO BELONG TO A JUNKY OUTFIT LIKE THAT, ANY MORE?
STOP!
NOW, MEBBE THE COUNCIL WILL WAKE UP!
THE HULL GOSH DINGED TOWN'LL BURN UP TIME THEY GIT RAIN!

Drawn by "Art" Espey

If the Firemen Will Not Work — the Police Must

The policemen in Metuchen, N. J., are the men of the hour—the popular heroes of the day. But it was not always thus. The town at one time had a very efficient department that was well known for the *espirit de corps* and their willingness to help, regardless of the distance the men had to travel. The expense of fire-fighting was borne by the volunteers; they paid for the upkeep of the equipment, uniforms and repairs without any financial assistance from the borough. It was the last straw that broke the camel's back, and similarly the financial burden broke the morale of the department. That was three years ago. Today the apparatus, even in a worse condition and neglected because of the lack of interest of the townspeople, comes under the tender care of the police department. Last month the town had two fires and not a member of the old faithful group of volunteer firemen responded. At one fire, the supply of fluid in the chemical apparatus was soon exhausted. While a policeman may have extensive knowledge of liquids, the information does not always include those found in extinguishers. The town has a puzzling problem on its hand. It needs a fire department, for even at its best nothing can substitute the original fire-fighters, and the town is loath to appropriate funds for the upkeep of the fire-fighting defense.

B & M SIREN

Did you hear our Sirens while you were in New Orleans? You could not have helped hearing them. The Ahrens-Fox Aerial Ladder had one on their exhibit car and have made the B & M Siren standard equipment on their apparatus. The American-LaFrance Fire Engine Company had a B & M on their exhibit car; our own demonstrator was there, and I know that you heard the Sirens in the parade. We blew them steadily for one and a half hours without any intermission. The B & M is the only siren today that you can blow for that length of time. Why? Because it is mechanically driven.

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INTERNATIONAL HARVESTER TRUCKS
COMPANY

FIRE DEPARTMENT ACTIVITIES

Holbrook, Mass., May Purchase Apparatus—Holbrook, Mass., is considering the purchase of chemical and ladder trucks.

El Monte, Cal., Receives New Apparatus—A new piece of apparatus costing $15,000 has been delivered to El Monte, Cal.

Largo, Fla., Installs Fire Siren—An electrically operated siren has been installed in Largo, Fla.

Catawissa, Pa., Raises Funds for Apparatus—The three-day drive of Catawissa, Pa., to raise funds for the purchase of fire apparatus was successful. About $5,000 was raised.

Bethlehem, Pa., May Have Paid Firemen—Chief Anderson has recommended that twelve paid firemen be stationed at the new Victory fire station.

Banning, Chief of New Philadelphia, O.—Walter T. Banning has commenced his duties as chief of the fire department at New Philadelphia, Ohio.

York, Pa., Station Nearly Completed—The Grantley fire station in York, Pa., is nearly completed. Aided by good weather, the building was erected in a short period of time.

Bayonne, N. J., to Have New Fire Stations—Plans have been completed for the erection of three fire stations in Bayonne, N. J., at a cost of $175,000.

Cambridge, Mass., Adds Repair Truck—A new truck equipped as a repair shop has been placed in service in the fire department of Cambridge, Mass.

Davenport, Ia., to Purchase Pumper—Bids have been submitted by various companies for supplying a 1,000-gallon pumper to Davenport, Ia.

Glen Ellyn, Ill., Purchases Pumper—Glen Ellyn, Ill., has purchased a Seagrave "Suburbanite" pumper of 500-gallon capacity.

Skaneateles, N. Y., to Have Fire Alarm System—A contract has been awarded to the Gamewell Company for the installation of a fire alarm system in Skaneateles, N. Y., at a cost of $3,000.

Powers of Casper, Wyo., Inspector Extended—The fire inspector in Casper, Wyo., has been given greater authority. He can now order any obstructions to be removed in such time as he may deem necessary.

Vergil, N. Y., Apparatus Passes Test—The new Sanford 4-chemical truck delivered to Vergil, N.Y., has passed the tests satisfactorily. At a recent meeting, William Hutchins was elected chief. A new fire house will be completed soon.

More Apparatus for Capital City, Mo.—Two General Manufacturing Company fire trucks were purchased by Capital City, Mo., for $12,500. One is a 400-gallon pumper and the other a city service truck.

Floral Park, L. I., to Have Fire Alarm System—Work has been started on the installation of a fire alarm system in Floral Park, L. I., N. Y. It is expected that the work will be completed this month.

Bath, Me., Department Completely Motorized—With the addition of a pumper and the conversion of another piece into a motor driven ladder truck, the fire department of Bath, Me., is now completely motorized.

Aberdeen, Wash., Considers Fire Problem—A survey is being made of Aberdeen, Wash., in order to determine the fire protection needs of the city. One of the problems is to work out plans for the erection of a fire headquarters.

Jersey City to Provide Christmas Cheer—Under the direction of Chief Roger Boyle, funds are being raised in Jersey City, N. J., to distribute Christmas cheer to the needy. Last year about three thousand baskets were distributed, and Christmas trees were erected in the various fire stations.

Bristol, Pa., Fights Paid Firemen—The volunteer firemen of Bristol, Pa., are against any plan to establish a paid fire department. Chief Franklin Gilkeson, in discussing the idea, said that it was a political plot to get the insurance companies to demand a paid fire department.

Orange City, Ia., Without Fire Protection—When the members of the volunteer fire department of Orange City, Ia., learned that the council had refused to purchase additional fire-fighting equipment, the entire membership of the department resigned, and the resignations were accepted.

Indianapolis, Ind., May Have Low Fire Loss—It is estimated by Chief Horace W. Carey of Indianapolis, Ind., that the per capita fire loss of the city this year may be $2, the lowest in its history. The per capita loss has been as high as $14.37 in 1923 and as low as $3.38 in 1924.

Pumper Rushed from Brunswick to Orr's Island, Me.—A pumper was rushed sixteen miles over the road from Brunswick, Me., to Orr's Island when fire destroyed a grocery store and damaged other buildings. The timely arrival of the pumper prevented the spread of the fire.

Two Fire Companies Crash in Philadelphia, Pa.—Two fire companies responding to a fire in Philadelphia, Pa., from different routes crashed, and two of the firemen on the rear of the hose truck were thrown to the street. Neither the men nor the apparatus were seriously injured.

Denver Apparatus Wrecked to Save Woman Driver—The driver of a fire apparatus in Denver, Col., wrecked the machine that he was driving in order to save a woman driver who came in the path of the fire company with her sedan. Five of the firemen were injured, some seriously, when the men were thrown to the pavement.

Marlboro, Mass., Chief Appointment Not Made—The council of Marlboro, Mass., has refused to confirm the action of Mayor Temple in appointing Ex-Chief John W. Keene to succeed the late Irving H. Fay as chief. During the illness of the late Chief Fay, Assistant Chief McDonald served as acting chief and it was believed that he would be named as chief.

Berks County Firemen Plan for Meeting—A meeting of the Berks County Firemen's Association in Pennsylvania will be held on January 29 in Reading, Pa. In addition, the officials of the association are planning for the annual banquet which will take place at that time. It is expected that about five hundred firemen will attend.

Box 41 Association of Lynn, Mass., Meets—The annual banquet of the Box 41 Association of Lynn. Mass., was held in a restaurant near the site of the original Box 41 from which the alarm was turned in for the great Lynn fire of 1889. Chief Edward E. Chase of the Lynn fire department was the guest of honor, and B. Frank Moody, president of the association, was in charge of the arrangements.

Hartford, Conn. to Have New Fire Station—Plans have been drawn for the erection of a new fire station in Hartford, Conn. A fund of $175,000 was appropriated for the work and it is believed that bids will be invited the first part of January. The new station will contain three pieces of apparatus—a ladder truck which will be purchased, a tractor engine and a chemical car.

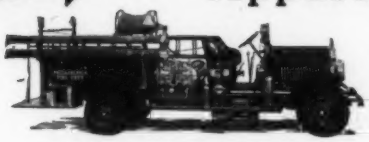
Insurance Rates of Massachusetts Raised—With the exception of Boston, Worcester and Lowell, the New England Insurance Exchange has increased the fire insurance rates in Massachusetts about five per cent on buildings and about fifteen per cent on contents. Lowell did not have its rates raised at this time because an increase was put into effect several months ago.

Wilmington, Del., Firemen May Have Eight Hour Day—A state law passed in 1903 may be interpreted so that the firemen of Wilmington, Del., will have an eight-hour day. It is contended that the city employees come within the law, and as such the firemen are entitled to an eight-hour day. If the law is interpreted in such a manner, it will mean an increase of one-third in the personnel. At a recent meeting, it was decided to increase the pay of the firemen.

Massachusetts adopts New Code for Dyeing Plants—A new code has been adopted in Massachusetts covering the construction and operation of dyeing and dry-cleaning plants. According to the new code, the industry must operate in one-story fireproof buildings containing the usual skylight and fire protection regulations. Establishments now in existence on roof tops may continue, providing they comply with the other fire prevention regulations.

Reward Offered for Sender of Worcester Alarms—Chief Charles L. McCarthy of Worcester, Mass., has offered a reward of two weeks' extra vacation with pay to the member of the fire department who will secure the arrest and conviction of the person responsible for the epidemic of false alarms in the city. The Box 4 Associates have posted a reward of one hundred dollars for the capture of the offender. There were thirty-eight false alarms sounded in Worcester during the month of November.

Sanford Fire Apparatus



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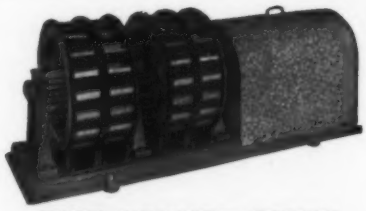

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9 Alarms, Thermostatic.
10 Asbestos, Clothing.
11 Badges, Insignias, Buttons, etc.
12 Banners, Trumpets, etc.
13 Battery Jars.
14 Battery Zincs for Fire Alarm Batteries.
15 Bells, Fire Alarm, Municipal.
16 Body Equipments.
17 Boxes, Gongs, Reels, Registers, Fire Alarm.
18 Brakes, Air.
19 Brake Linings.
20 Brooms, Fire.
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36 Extinguishers, Fire, Foam.
37 Extinguishers, Fire, Powder.
38 Fire Boat Nozzle Equipment.
39 Fire Department Supplies, General.
40 Fire Drills & Organizations.
41 Fire Exit Devices, Door Opening.
42 Fire Alarm Posts.
43 Fire Escapes, Portable.
44 Fire Escapes, Rigid.
45 First Aid Equipment.
46 Flare Lights.
47 Flashlights, Hand.
48 Foam Liquid for Extinguishers.
49 Gas Masks and Respirators.
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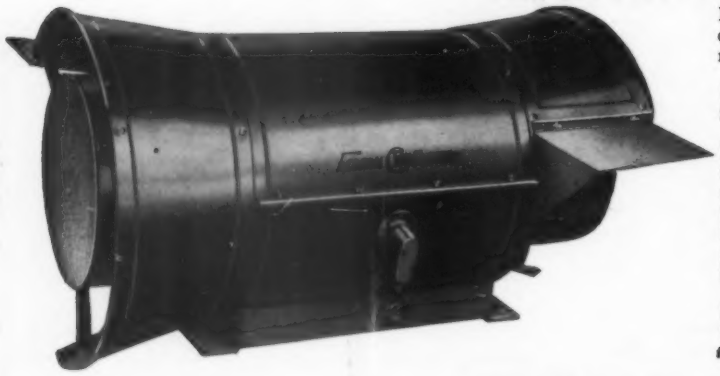
99 Thawing Equipment, Hydrant.
100 Tires, Fire Apparatus, Pneumatic, Solid, Cushion and Non-Skid.
101 Tractors.
102 Traffic Clearing Systems.
103 Triple Combination Pumping Cars.
104 Uniforms.
105 Water Towers.
106 Wheels, Cushion.
107 Whistles, Fire Alarm, Compressed Air.
108 Whistles, Fire Alarm, Steam.
109 Whistles, Fire Apparatus.
110 Wrecking Trucks.

For Information on Any Equipment Not Listed Above, Write on This Page or Use Separate Sheet.

Dec. 25, 1926

WHY A SIX MILE SIREN IN A TWO MILE TOWN?



Maybe your town is small and you think you don't need a signal that can be heard for six miles.

If your volunteers slept with "one ear open" for the fire alarm you would be right.

North of Chicago is a town—their insurance rates were high because volunteers didn't turn out and fires were disastrous. One Federal on the engine house has saved them enough in insurance rates in the last two years to pay for putting a Federal on each of their many street intersections.

Isn't it significant that in nine out of ten towns of the thousands who are protected with sirens *those* sirens are *FEDERALS?*

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Don't keep the poor hound muzzled up. How can he stay in touch with the boys and learn anything about the fire fighting profession if you keep him away from FIRE ENGINEERING?

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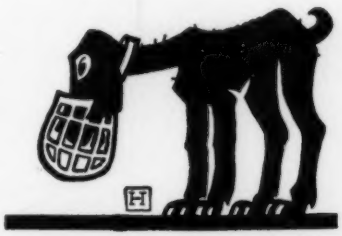

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These two new books contain a mighty fine lot of up-to-the-minute information for every fire officer. Just glance through the list of topics covered as shown below — Then get your order in while the editions last.

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Combination stores and apartments;
Large oil works;
Motion picture film exchanges;
Large refrigeration plants;
Fiber and rag warehouses;
Tall office buildings;
Piano factories;
Armory (during merchandise exhibitions);
Large area celluloid merchandise factory;
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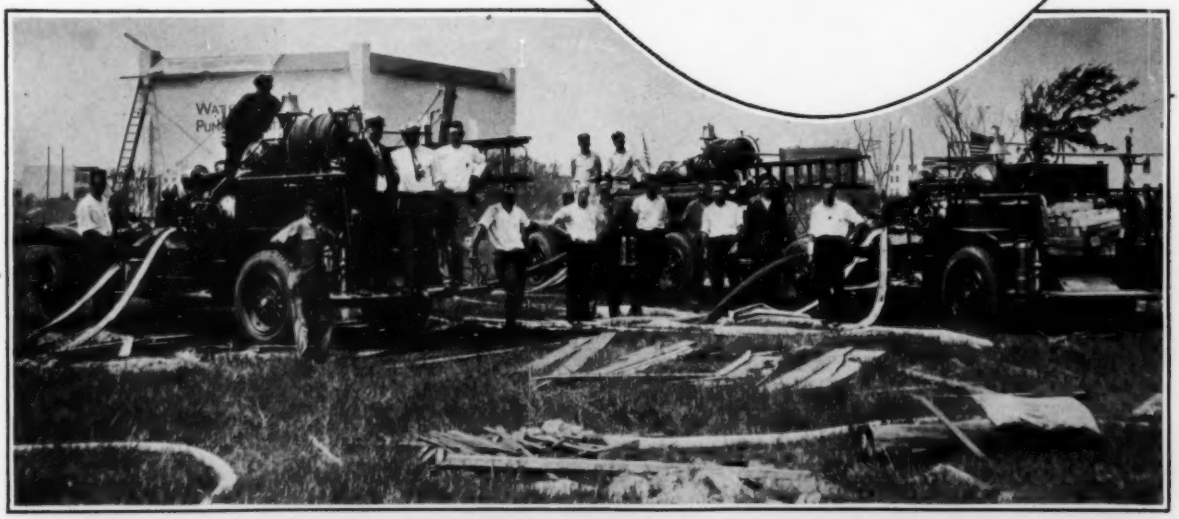


GOOD Fire Hose is Fire Protection Insurance!

No fire department can be more efficient than the hose in its wagons. Every experienced department man realizes that dependable fire hose is one of his mainstays in the continual battle against fire losses.

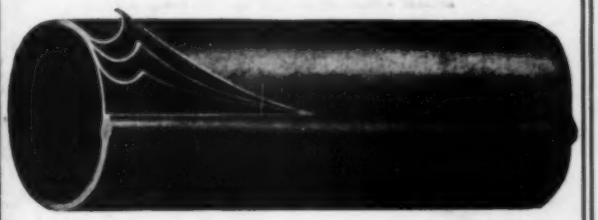
The purchase of fire hose is an investment—not just another expenditure. It means an investment in efficient, dependable fire protection.

Buy GOOD hose! Stop buying hose on a price basis alone. Often if but ten cents a foot were added to the purchase price of the hose that you are buying—you could invest in the finest hose on the market. Just ten cents a foot—and the life of the good hose will be twice to three times that of the cheaper grade.

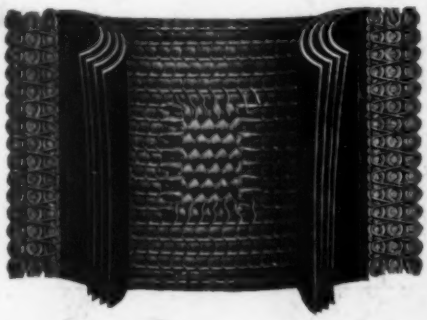
For over fifty years Paragon and the other famous brands of Eureka manufacture have been recognized as the standards of fire hose quality and service. "Eureka" stays on the job 'til the job is done!

"Standardize on Eureka!"

The secret of Eureka Service lies in the Eureka Construction.



There is no finer rubber lining made than the four-ply, hand-made, lap-joined tubes that form the waterway for all brands of Eureka hose. Another factor of Eureka Fire Hose supremacy. From cover to tube, there is no better hose on the market than the famous brands bearing the Eureka trade mark.



This cross-section of Eureka four-ply, circular multiple woven Fire Hose shows the exclusive smooth interior construction. An extra ply of fine yarn woven in the valleys of the inner surface, levels off that surface of the fabric which comes into contact with the rubber tube—entirely eliminating the ribbing or corrugating of rubber linings, unavoidable with other constructions. This feature adds 25% to cover strength.

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